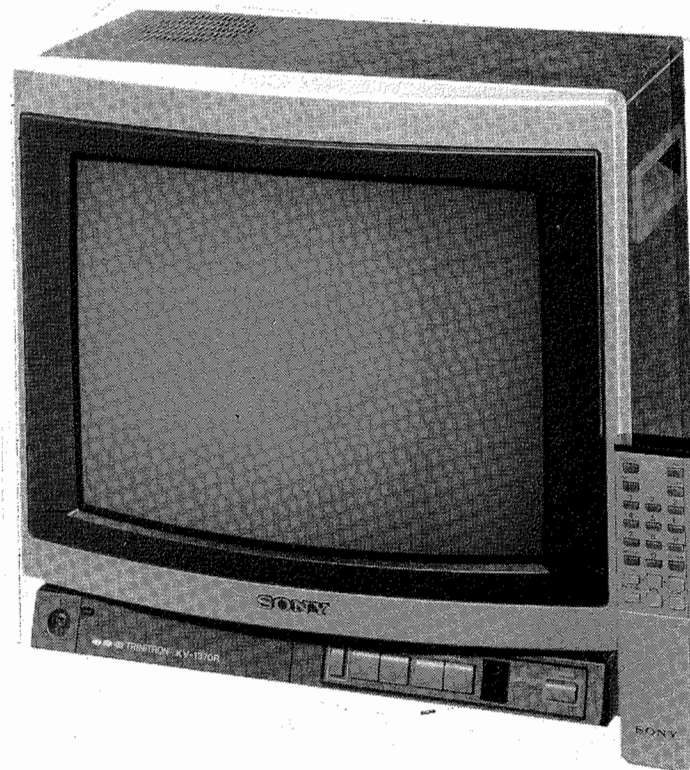


Models
KV-1370R
KV-1370R
KV-1396R
KV-1397R

Chassis
SCC552N-A
SCC648A-A
SCC648B-A
SCC648C-A



Model KV-1370R

SAFETY PRECAUTIONS

See Page 1

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SERVICE INFORMATION

See Page 3

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TROUBLESHOOTING AID

Note: Waveforms taken with triggered scope, Keyed-Rainbow generator. Schematic voltages measured with digital meter, no signal. Controls adjusted for normal operation.

PICTURE or SOUND

NO PIC, NO SOUND, NO RASTER: Check AC power supply and sources generated from Horizontal Output Transformer (T503). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, NO SOUND, HAS RASTER: Check IF-AGC and source voltages from Horizontal Output Transformer (T503). Refer to "Troubleshooting" IF-AGC and Horizontal circuits.

NO PIC, HAS SOUND, NO RASTER: Check Horizontal Output Transformer (T503) sources and Video circuit. Refer to "Troubleshooting" Horizontal and Video circuits.

NO PIC, HAS SOUND, HAS RASTER: Refer to "Troubleshooting" Video circuit.

HAS PIC, NO SOUND: Refer to "Troubleshooting" Audio circuit.

OVERLOADED PICTURE: Refer to "Troubleshooting" IF-AGC circuit.

LOW OR EXCESSIVE BRIGHTNESS: Check Video and Luminance circuits. Refer to "Troubleshooting" Video circuit.

SWEEP

NO RASTER, HAS SOUND: Check HV rectifier, Part of Horizontal Output Transformer (T503). Refer to "Troubleshooting" Horizontal circuit.

NO RASTER, NO SOUND: Refer to "Troubleshooting" Horizontal circuit.

NO VERT DEFLECTION: Refer to "Troubleshooting" Vertical circuit.

POOR VERT LIN OR FOLDOVER: Refer to "Troubleshooting" Vertical circuit.

POOR HORIZ LIN OR FOLDOVER: Refer to "Troubleshooting" Horizontal circuit.

NARROW PICTURE: Refer to "Troubleshooting" Horizontal circuit.

VERT OFF FREQUENCY: Refer to "Troubleshooting" Vertical circuit.

HORIZ OFF FREQUENCY: Refer to "Troubleshooting" Horizontal circuit.

SYNC

NO VERT/HORIZ SYNC: Refer to "Troubleshooting" Sync circuit.

RASTER

YELLOW (NO BLUE): Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

CYAN (NO RED): Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

MAGENTA (NO GREEN): Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

COLOR (B/W operating normally)

NO COLOR: Refer to "Troubleshooting" Chroma circuit.

WEAK COLOR: Refer to "Troubleshooting" Chroma circuit.

NO COLOR SYNC: Refer to "Troubleshooting" Chroma circuit.

NO GREEN: Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

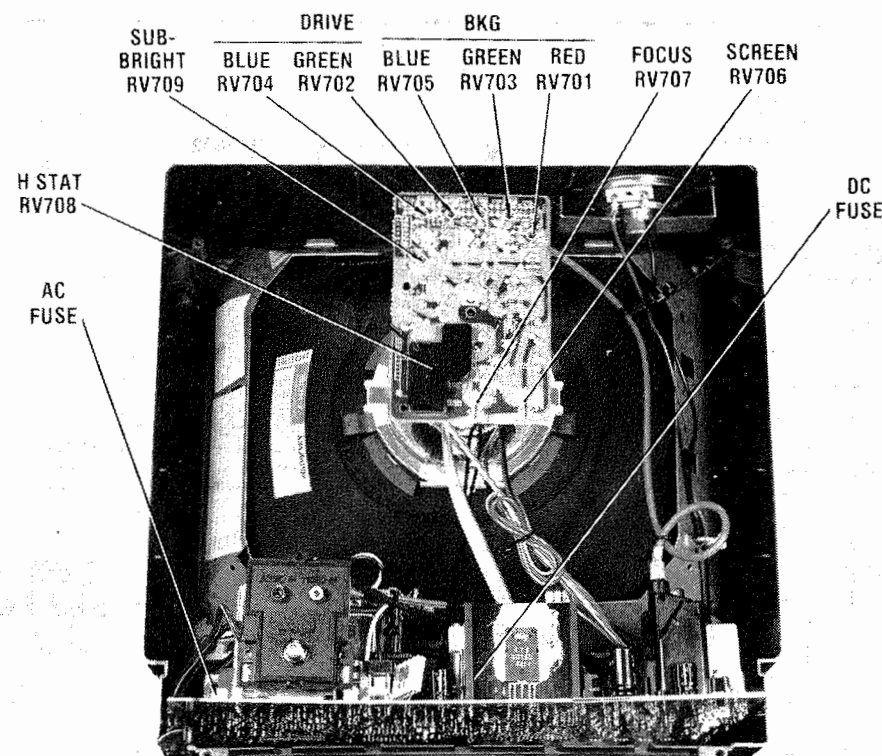
NO BLUE: Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

NO RED: Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

INCORRECT HUE (TINT): Refer to "Troubleshooting" Chroma circuit.

SONY MODELS KV-1370R, KV-1396R,
KV-1397R(CH.SCC-648A-A/B-A/C-A

SET 2413 FOLDER 1



CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove five screws holding cabinet back and remove back. Disconnect speaker and antenna connectors. Disconnect HV anode, CRT socket, deflection yoke connector, degaussing coil connector and ground leads. Remove one screw holding earphone jack assembly to cabinet front and remove assembly from cabinet. Slide main board assembly out of cabinet.

CRT REMOVAL

Follow "Chassis Removal" procedure and lay set facedown on a soft protective surface. Loosen and remove CRT neck assemblies. Remove four screws holding CRT to cabinet front and lift CRT out of cabinet. Do not lift CRT by the neck.

SERVICING IN THE FIELD

CRT IMPLSION PROTECTION AND CLEANING

Implsion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

FUSE DEVICES

A 1-amp fuse is used for low-voltage power-supply protection. (See photo, Cabinet-Rear View.)

A 6.3-amp fuse is used for AC line protection. (See photo, Cabinet-Rear View.)

VHF/UHF TUNER

Channel + (up) and - (down) buttons are provided for channel scanning. Ten numbered buttons and Enter button on the remote are provided for one or two digit entry channel selection with Channel + (channel up) and Channel - (channel down) buttons provided for channel scanning. Erase and Add buttons are provided for pretuning. Fine tuning is automatic.

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the horizontal frequency. (See Main Board CircuitTrace Photo.)

FOCUS

The focus may be varied by a focus control. (See photo, Cabinet-Rear View.)

AGC

The AGC may be varied by an RF AGC control. (See Main Board CircuitTrace Photo.)

CENTERING

Horizontal centering is accomplished by proper placement of the horizontal centering jumpers (R, C, L). (See Main Board CircuitTrace Photo.)

Vertical centering is accomplished by proper placement of the vertical centering switch (Down Cent, Up). (See Main Board CircuitTrace Photo.)

SAFETY PRECAUTIONS

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

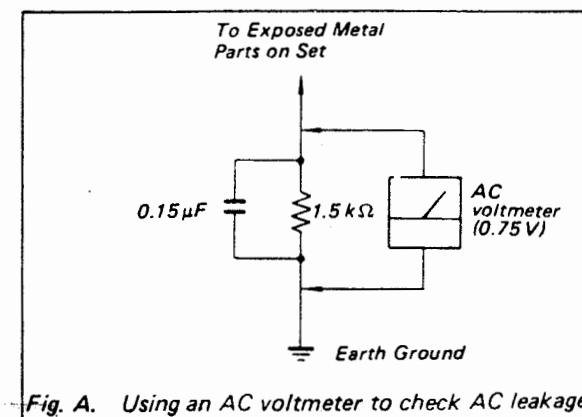


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

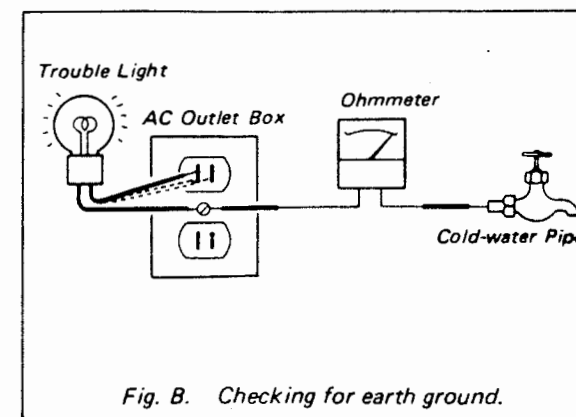


Fig. B. Checking for earth ground.

TROUBLESHOOTING

POWER SUPPLY

Check AC Fuse (F601) and DC Fuse (F602). If Diode D601 and Electrolytic C602. If Fuse F601 is good, apply 120V AC and check for 157V at the cathode of Diode D601. If this voltage is absent, check Line Filter (T601) and Power Relay (RY601). Check the voltages and components associated with Relay Drive Transistors (Q106). If Fuse F602 is open, check +B Regulator IC (IC601) and Horizontal Output Transistor (Q502). If Fuse F602 is good, check for 135V at TP95. If this voltage is absent, check the voltages, waveforms and components associated with TP95, refer to the "Horizontal" section of this Troubleshooting guide. If the voltage at TP95 is 162V, refer to the "Horizontal" and "High Voltage Shutdown" sections of this Troubleshooting guide.

HORIZONTAL

Determine if the TV is in shutdown, refer to the "High Voltage Shutdown" section of this Troubleshooting guide. If the TV is not in shutdown, inject a horizontal drive signal at the base of the Horizontal Output Transistor (Q502). If horizontal deflection is now present, check the voltages, waveforms and components associated with pins 1 thru 6, 9, 10 and 11 of Y/Chroma Jungle IC (IC301) and Horizontal Drive Transistor (Q501). If there is still no horizontal sweep, check the voltages, waveforms and components associated with Transistor (T503). The High Voltage Rectifier is part of Transformer T503 and it defective will affect the operation of the horizontal circuits. Check Rectifier Diodes (D406, D508, D511, D512, D514 and D515 and associated components for defects. If the horizontal oscillators are off frequency, check the voltages, waveforms and components associated with pins 1, 2 and 9 of IC301. Horizontal linearity or width problems may be caused by capacitors C520, C521, C522, C527 and C528 being defective.

HIGH VOLTAGE SHUTDOWN

The High Voltage is monitored by Rectifier Diode (D512) rectifying pulses from the Horizontal Output Transformer (T503). Should the High Voltage increase, the rectified voltage at the cathode of Diode D512 will also increase. This increased voltage is applied to pin 10 of Y/Chroma Jungle IC (IC301) shutting down the set. To troubleshoot, remove Resistor R530 from the circuit, disconnect the High Voltage lead from the CRT and use a Variac for AC power. Start with 80V AC and increase as necessary to locate and correct defect. Refer to the "F-Agc" section of this Troubleshooting guide. NOTE: Care should be taken in defeating the High Voltage Shutdown Circuit as this may cause excessive X-ray radiation and damage to the CRT. Transistor T503 and associated components. Monitor for the High Voltage and troubleshoot.

Voltages taken in shutdown.

TP95	162V
IC301	Pin 5
Pin 10	5.8V
	Pin 10
	0.70V

IF-Agc

Inject a video IF signal at the input and on the CRT. Check for a video waveform at TP12. If video is present at TP12, refer to the "Video" section of this Troubleshooting guide. If there is no video at TP12, apply AGC bias to pin 6 of VIF Module (VIF201). If video is now present at TP12, check the components associated with pin 6 of VIF201. If there is still no video at TP12, check for a video waveform at pin 12 of VIF201. If there is no video at pin 12, check Module VIF201, voltages and associated components. If a video waveform is present at pin 12 of VIF201, check the voltages, waveforms and components associated with Video Buffer Transistors (Q205, Q408, Q411), Horizontal Sync-1 Transistor (Q206), and Video Switch IC (IC403). A defective AGC circuit can cause an overloaded picture, excessive snow or loss of video and audio, check the voltage at pin 6 and pin 1 of VIF201. It should vary with signal strength.

AGC voltages with signal.

VIF201	Pin 1	3.1V
	Pin 6	3.1V

AUDIO

If there is no audio, check for an audio waveform at pin 10 of VIF Module (VIF201). If there is no audio at pin 10, check the voltages between pin 7 of VIF201. It should vary between .13V at MINIMUM volume and 5.5V at Maximum volume. If this voltage is not present, check the components associated with pin 18 of Control IC (IC101). If the proper voltage is present at pin 7 of VIF201, check Module VIF201 it may be defective. If an audio waveform is present at pin 10 of VIF201, check for an audio waveform at pin 9 of VIF201. If this waveform is absent, check the voltages, waveforms and components associated with Audio Switch IC (IC404) and Audio Buffer Transistor (Q414). If there is audio at pin 9 of VIF201, check for audio at pin 8. If there is no audio, check VIF201. If there is audio at pin 8 of VIF201, check the voltages, waveforms and components associated with Audio Amplifier IC (IC251). If there is no audio in external audio mode, check the voltages, waveforms and components associated with Audio Drive Transistor (Q404), Audio Amp Transistor (Q413) and Audio Coupler IC (IC402).

VIDEO

Inject a video signal at TP12 and check for video on the CRT. If video is present, refer to the "F-Agc" section of this Troubleshooting guide. If there is no video on the CRT, check for a video waveform at pins 17, 18 and 19 of Y/Chroma/Jungle IC (IC301). If there is no video at pins 17, 18 and 19, check the voltages, waveforms and components associated with pins 17 thru 23 and 26 thru 28 of IC301. If the brightness is inadequate or cannot be controlled, check the voltages and components associated with pins 23 and 26 of IC301. If

TROUBLESHOOTING (Continued)

VERTICAL

Video is present at pins 17, 18 and 19 of IC301, check the CRT and output Transistors (Q701, Q702, Q703). If there is no video on the CRT in external video mode, check the voltages, waveforms and components associated with Video Drive Transistor (Q401), Video Amp Transistor (Q402), Video Buffer Transistor (Q403) and Video Coupler IC (IC401).

SYNC

If there is no vertical or horizontal sync, check the voltages and components associated with pins 1, 2, 3, 9 and 12 of Y/Chroma Jungle IC (IC301). If these check good IC301 is defective.

C545 for defects.

If there is no color, check for the proper chroma waveforms at pins 17, 18 and 19 of Y/Chroma Jungle IC (IC301). If there is inadequate tint range, check the voltage and components associated with pin 24 of IC301. If the proper chroma waveforms are present at pins 17, 18 and 19 of IC301, refer to the "Raster" section of this Troubleshooting guide.

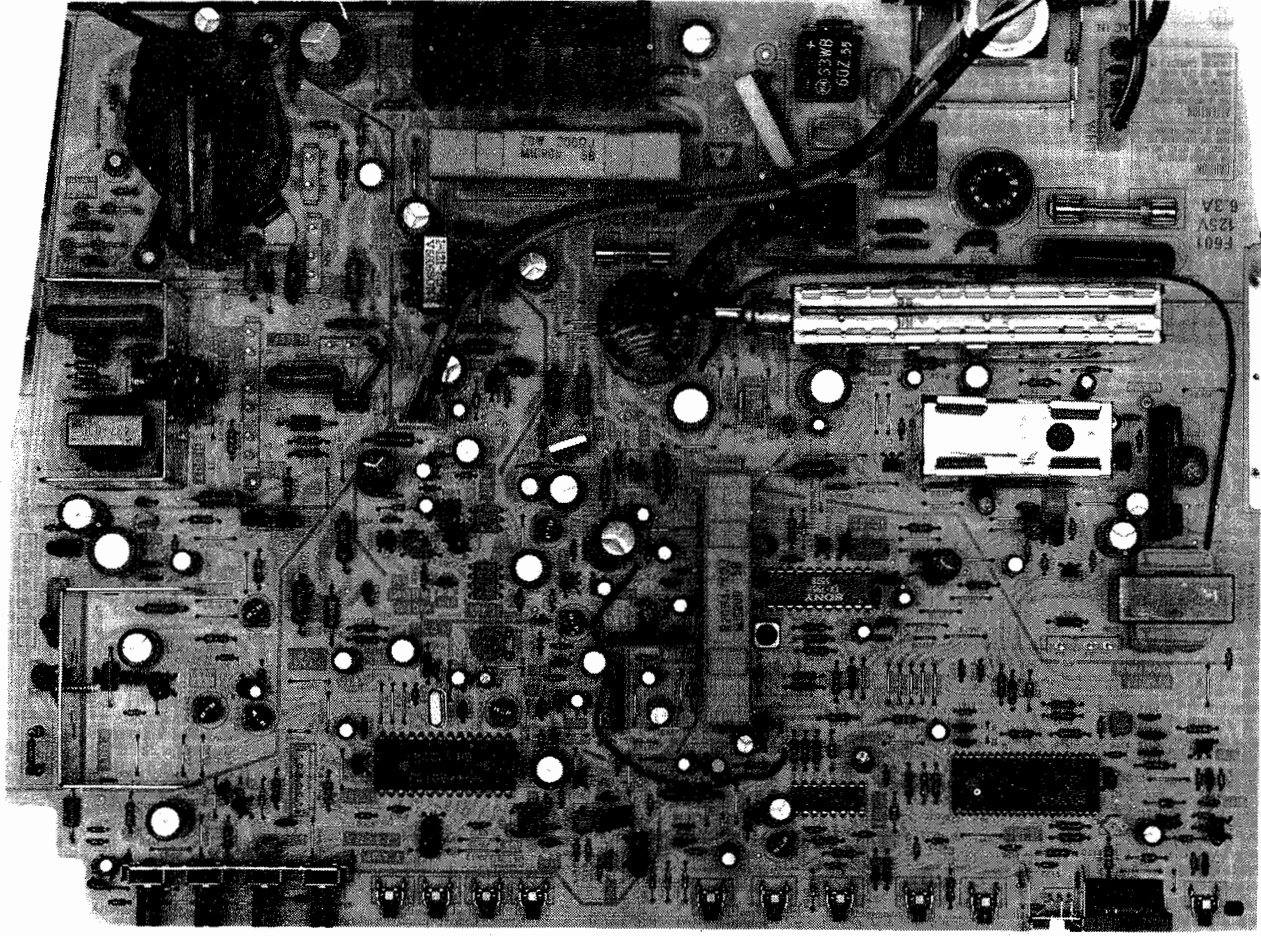
RASTER

Check the CRT and CRT voltages. If there is no green, check the voltages, waveforms and components associated with pin 18 of Y/Chroma Jungle IC (IC301) and Green Output Transistor (Q702). If there is no blue, check the voltages, waveforms and components associated with pin 17 of IC301 and Blue Output Transistor (Q703). If there is no red, check the voltages, waveforms and components associated with pin 19 of IC301 and Red Output Transistor (Q701). If the raster has a keystone shape, check the Deflection Yoke (DY). If the raster has height or width problems, refer to the "Vertical", "Horizontal" and "Power Supply" sections of this Troubleshooting guide.

CHROMA

If there is no color, check for the proper chroma waveforms at pins 17, 18 and 19 of Y/Chroma Jungle IC (IC301). If these waveforms are absent, check the voltages, waveforms and components associated with pins 8, 17, 18, 19, 24 and 25 of IC301. Check the 3.58MHz oscillator at pin 8 of IC301. Check the voltages and components associated with Color Control at pin 25 of IC301. If there is inadequate tint range, check the voltage and components associated with pin 24 of IC301. If the proper chroma waveforms are present at pins 17, 18 and 19 of IC301, refer to the "Raster" section of this Troubleshooting guide.

A (MAIN) BOARD-TOP VIEW



MISCELLANEOUS ADJUSTMENTS

CHANNEL PRETUNING

1. Connect antenna.
2. Turn power On.
3. Open secondary control access door.
4. Select channel to be pretuned.
5. Momentarily depress Add button.
6. Follow steps 4 and 5 for each channel to be pretuned.

Removing Channels

7. Follow steps 1 through 3.
8. Select channel to be removed.
9. Momentarily depress Erase button.
10. Follow steps 8 and 9 for each channel to be removed.
11. After pretuning, close secondary control access door.

HORIZONTAL CENTERING ADJUSTMENT

Tune in a crosshatch pattern. Move Horizontal Centering Connector to one of three terminals (R, C, L), whichever gives the best horizontal centering.

VERTICAL CENTERING ADJUSTMENT

Tune in a crosshatch pattern. Place Vertical Centering Switch (S501) in one of three positions (Up, C, or Down), whichever gives the best vertical centering.

SUB BRIGHTNESS ADJUSTMENT

Tune in a picture. Set Brightness and Picture Controls to Maximum. Adjust Sub Brightness Control (RV709) to a point just before blooming occurs.

VERTICAL BIAS ADJUSTMENT

Tune in a color bar signal. Connect DC voltmeter to TP501, low side to ground. Adjust Vertical Bias Control (RV504) for $12.0 \pm 0.2V$ DC.

VERTICAL FREQUENCY ADJUSTMENT

Tune in a station, adjust Vertical Frequency Control (RV502) for a stable picture. Try on all available channels while adjusting RV502 until there is little or no vertical roll.

VIDEO LEVEL ADJUSTMENT

Tune in color bar RF signal. Connect scope to pin 4 of IC403, NOTE: WF p-p voltage. Switch to color bar video signal, adjust Video Level (RV401) for same reading as pin 4 of IC403.

HORIZONTAL FREQUENCY ADJUSTMENT

Tune in a color bar signal. Connect DC voltmeter to TP309 (pin 9-IC301). Adjust Horizontal Frequency Control (RV501) for $3.2 \pm 0.1V$ DC.

SUB CONTRAST ADJUSTMENT

Tune in a color bar signal. Set Picture Control to Maximum, Color to MINIMUM, Hue to center and Brightness to detent. Connect a scope to pin 17 of IC301 (TP317). Adjust Sub Con-

trast Control (RV307 for 2.4V p-p on the scope.

RF-AGC

Tune in a station and set all controls to normal. Adjust AGC Control (located on VIF Module) until snow (noise) appears in the picture. Adjust in opposite direction until snow just disappears.

INDICATOR POSITION ADJUSTMENT

Tune in a picture. Set Brightness Control to midrange. Press and hold Picture Control until bar is at Maximum. Continue to press Picture Control and adjust L102 to position end of indicator bar approximately 3/4 inch from right side of screen.

3.58MHz ADJUSTMENT

Tune in a color bar pattern. Connect scope to pin 17 of IC302. Adjust RV306 for MINIMUM chroma component of waveform.

PURITY ADJUSTMENT

If the picture tube appears to be magnetized, use a degaussing coil to demagnetize picture tube and mounting brackets. Loosen deflection yoke and slide it back as far as possible. Set Red Background (BKG) Control (RV701) to Maximum and Blue (RV705) and Green (RV703) Background (BKG) Controls to MINIMUM. Adjust purity rings on rear of deflection yoke to center the vertical red band. Slide the deflection yoke forward until a uniform red screen is obtained. If necessary, use disc magnets to correct impurity at the corners of the screen. (See Parts List.) Place disc magnets at rear corners of the picture tube.

CONVERGENCE ADJUSTMENT

Connect crosshatch generator to the antenna terminals and tune in a dot pattern. Adjust the Horizontal Static Control to converge the red and blue dots horizontally over the green dot at the center of the screen. Rotate the Vertical Static Magnets to converge the red and blue dots vertically over the green dot at the center of the screen. NOTE: Rotate the two Vertical Static Magnets equally, one to the right and one to the left from vertical position. NOTE: Some versions may use a BMC Magnet. To adjust the BMC Magnet, slide it in and out to correct for insufficient horizontal static convergence. Rotate the BMC Magnet to correct for insufficient vertical static convergence. Tune in a crosshatch pattern. If necessary remove the rubber wedges between the deflection yoke and picture tube. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke to the right or left to converge the horizontal lines at the top and bottom of the screen and the vertical lines at the right and left sides of the screen. Replace the rubber wedges. To correct the convergence at the corners of the screen, slide a permalloy magnet assembly between the picture tube and the de-

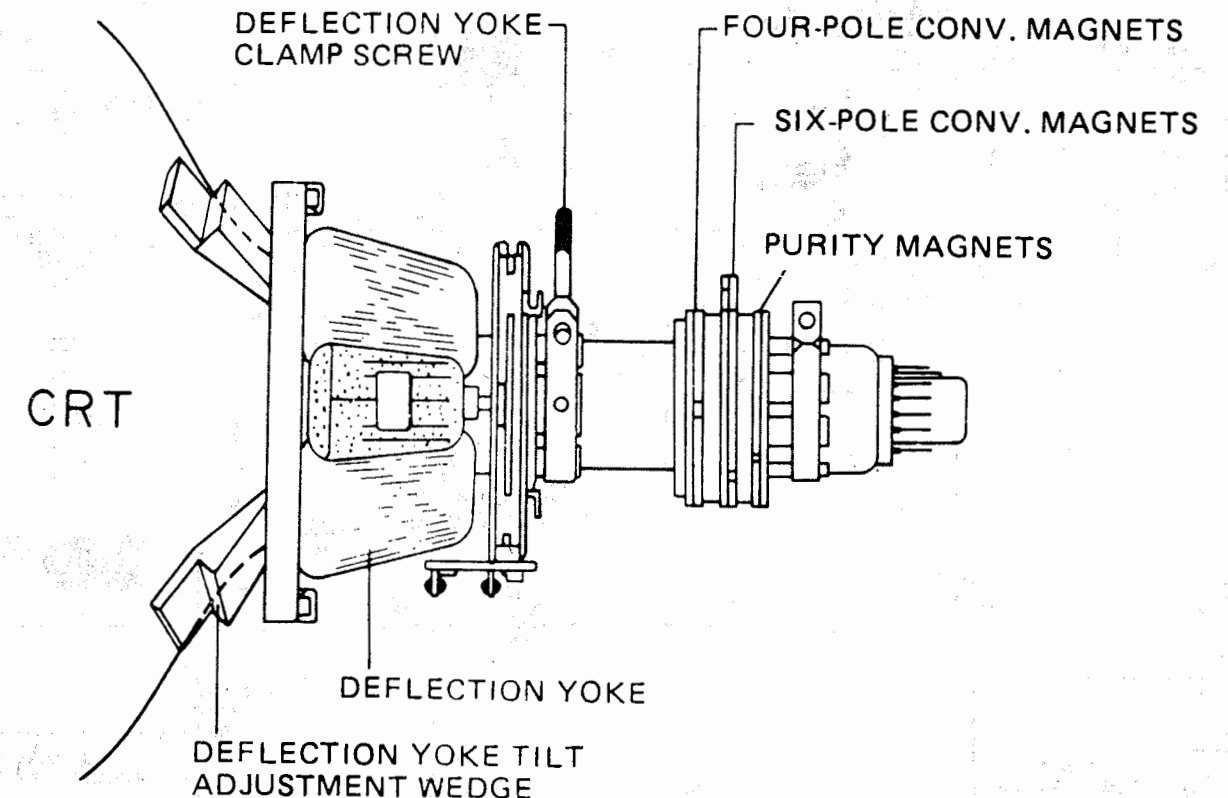
MISCELLANEOUS ADJUSTMENTS (Continued)

flection yoke behind the areas affected on the screen. Position the permalloy assemblies for the best horizontal and vertical convergence correction in the corners affected. Repeat appropriate convergence procedure if necessary to obtain the best overall convergence.

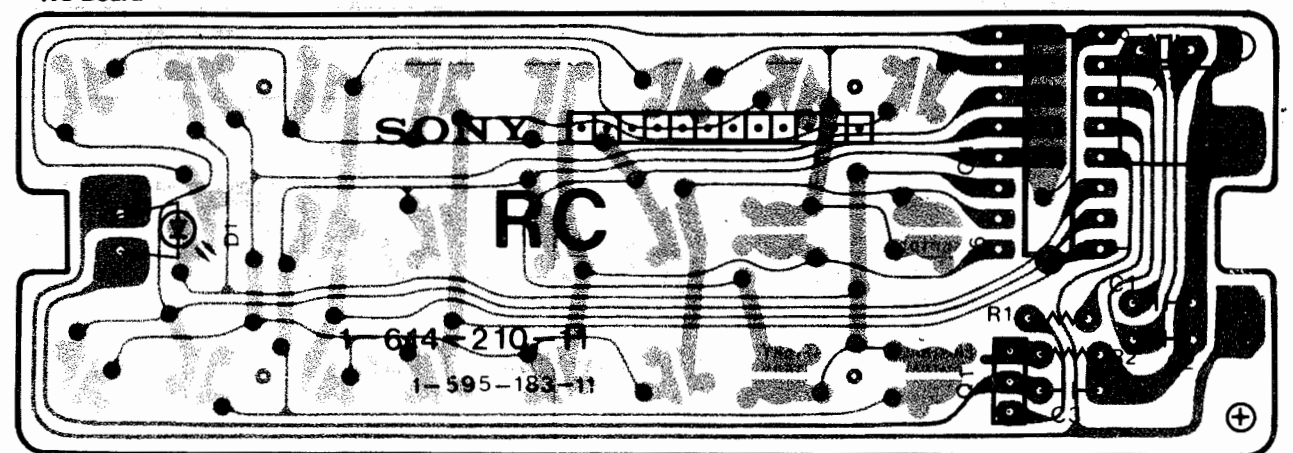
COLOR TEMPERATURE ADJUSTMENT

Connect a crosshatch generator to the antenna terminals and tune in a crosshatch pattern. Set the Brightness and Picture Controls to MINIMUM. Turn G (Green RV704) and B (Blue

RV704) Drive Controls to Maximum. Turn R (Red RV701) Background (BKG) Controls to midrange. Turn G2 Adjust Control (RV708) to obtain a faintly visible crosshatch pattern. Adjust Background (BKG) Controls for best white balance on the faintly visible pattern. Turn the Brightness and Picture Controls to Maximum. Adjust the Drive Controls for best white balance on the pattern. Check tracking at high and low brightness levels and repeat procedure if necessary.



- RC Board -



Courtesy of Manufacturer

REMOTE CONTROL TRANSMITTER BOARD

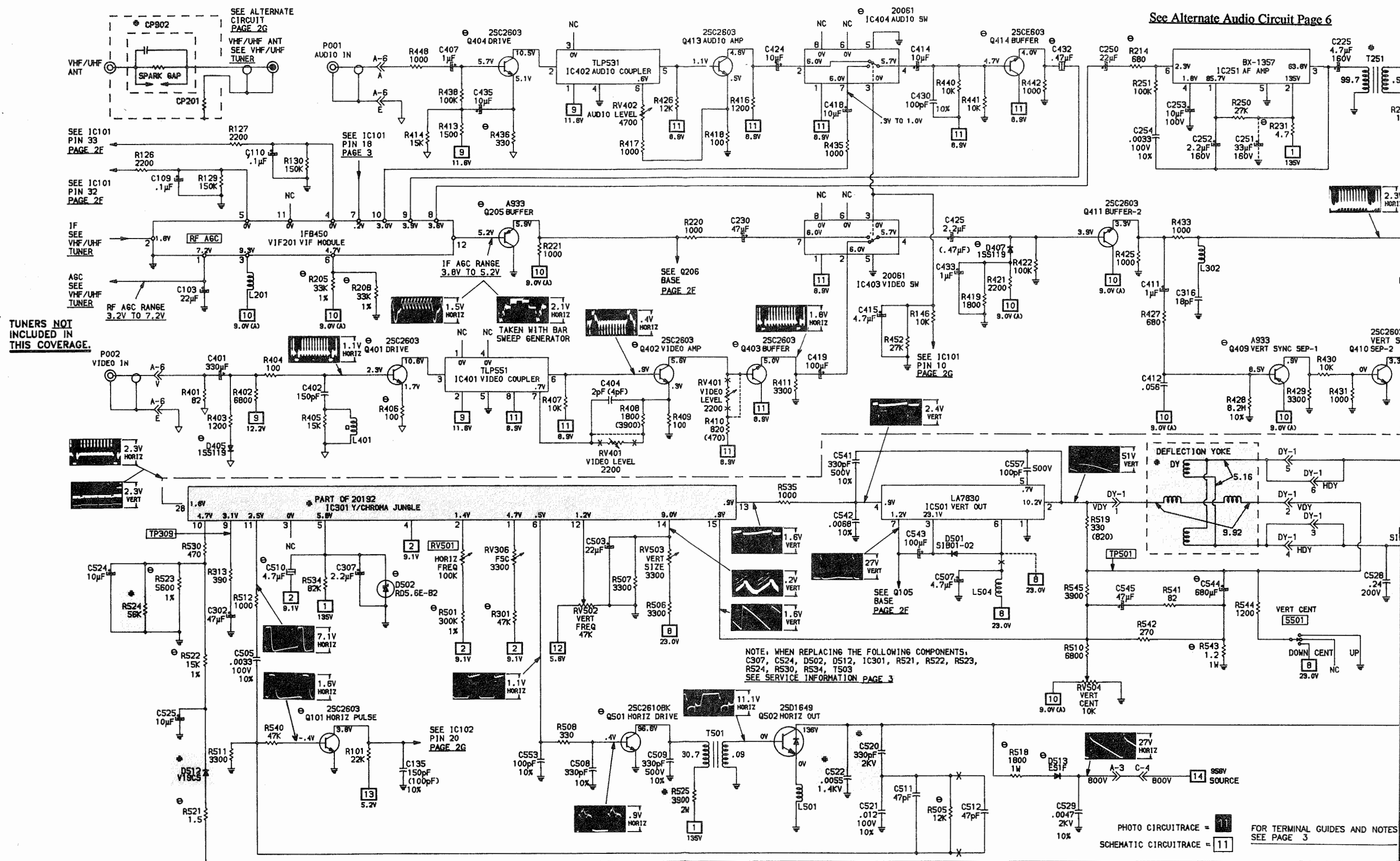
SET 2413 FOLDER 1

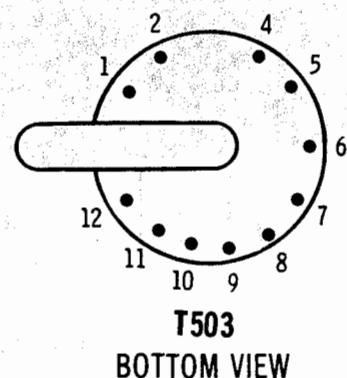
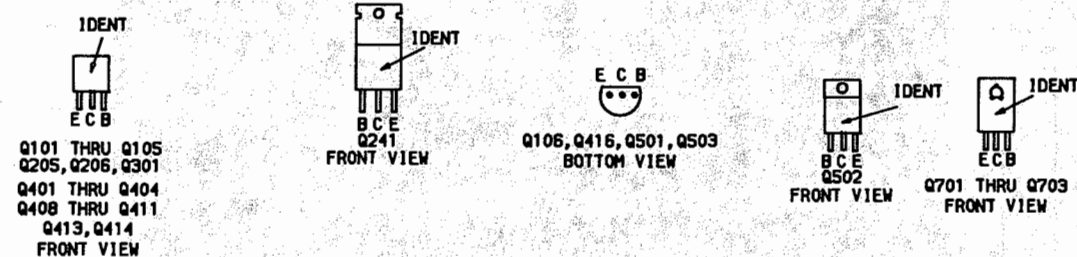
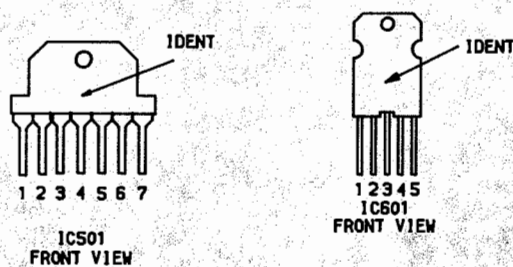
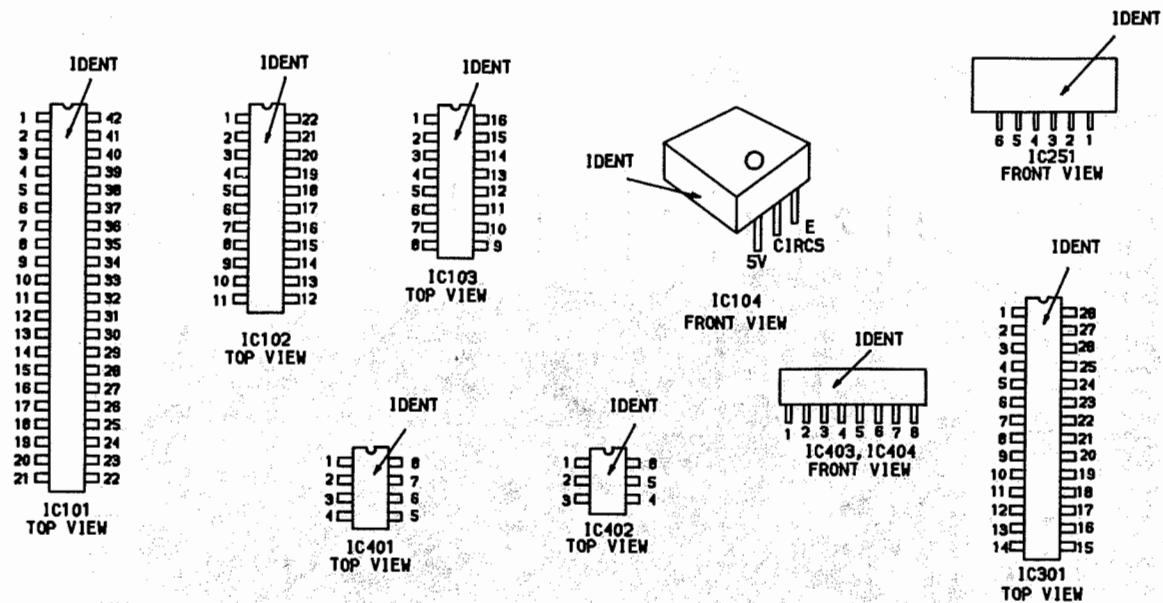
Page 1

SONY MODELS KV-1370R, KV-1396R,
KV-1397RICH, SCC-648A, A/B, A/C-A

A

B

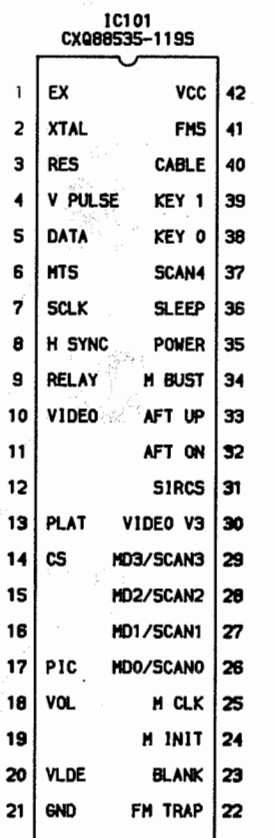
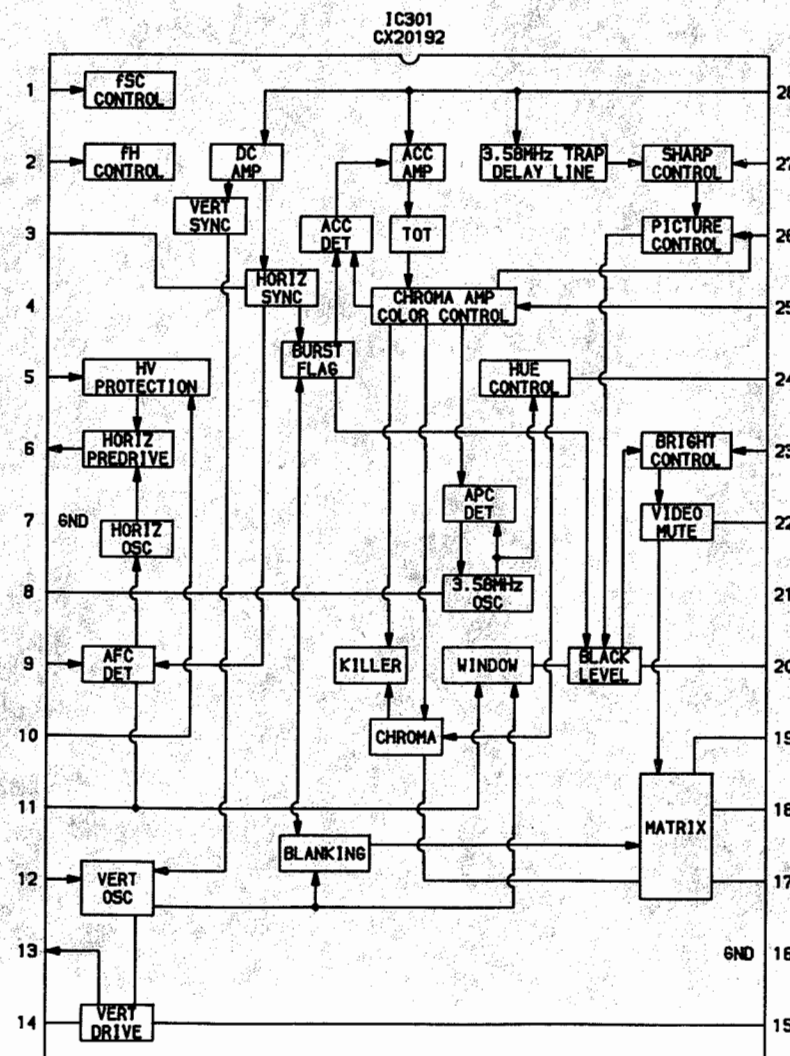
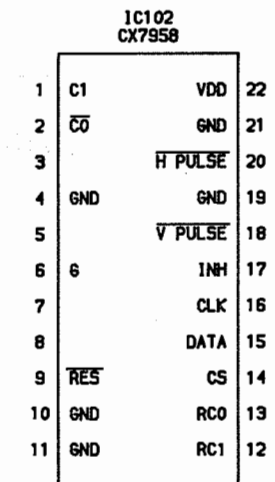
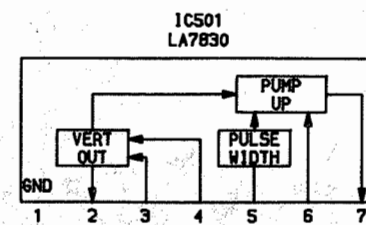
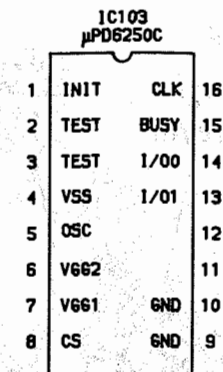




TERMINAL GUIDES AND NOTES

For SAFETY use only equivalent replacement part, see parts list.

- Circuitry not used in some versions
 - - - Circuitry used in some versions
 - See parts list
 - * Nominal value
 - ⊥ Ground
 - ▽ Common tie point
- Waveforms and voltages are taken from ground, unless noted otherwise.
- Waveforms: triggered scope, keyed rainbow generator.
- Item numbers in rectangles appear in the alignment/adjustment instructions.
- Supply voltages maintained as shown at input.
- Voltages measured with digital meter, no signal.
- Controls adjusted for normal operation.
- Terminal identification may not be found on unit.
- Capacitors are 50 volts or less, 5% unless noted.
- Electrolytic capacitors are 50 volts or less, 20% unless noted.
- Resistors are 1/2W or less, 5% unless noted.
- Value in () used in some versions.



IC FUNCTIONS

SERVICE INFORMATION

A Board Adjustments


3.58 MHz TRAP

1) Receive color bar signal.

PICTURE	VR	.....	maximum
BRIGHT	VR	.....	center click
COLOR	VR	.....	minimum
HUE	VR	.....	center

3) Adjust RV-306 until the 3.58 MHz component in Y out waveform at pin (17) of IC301 becomes a minimum as shown below.

Make 3.58 MHz carrier component to be minimum.



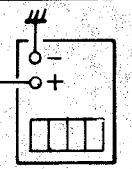
oscilloscope

V BIAS

1. Tune in an off-air signal.

2. Adjust V BIAS VR (RV504) so that voltage of V. deflection yoke connector (grounded side) is 12.0 ± 0.2 V dc.

3. Confirm V-SIZE adjustment.

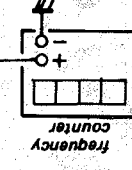


digital multimeter

V SIZE

1. Tune in an off-air signal.

2. Adjust V SIZE VR (RV503) for a best vertical size picture.



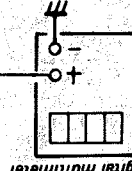
frequency counter

V-FREQUENCY

1. Switch to a channel where no signal is received.

2. Connect a frequency counter across pin (2) of IC501 and ground.

3. Adjust V-FREQUENCY VR (RV502) to obtain $55\text{Hz} \pm 0.5\text{Hz}$ reading on the frequency counter.



frequency counter

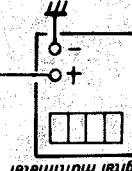
H-FREQUENCY

1. Tune in an off-air signal.

2. Set the PICTURE and BRIGHT control to obtain a suitable picture.

3. Connect an digital multimeter across pin (9) of IC301 and ground.

4. Adjust H-FREQUENCY VR (RV501) to obtain 3.2 ± 0.1 V dc reading on the digital multimeter.



digital multimeter

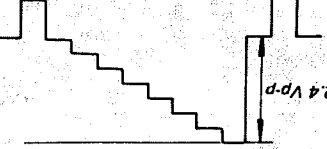
SUB PICTURE

1. Receive color bar signal.

PICTURE	VR	.....	maximum
BRIGHT	VR	.....	center click
COLOR	VR	.....	minimum
HUE	VR	.....	center

3. Connect an oscilloscope across pin (17) of IC301.

4. Adjust RV-307 to 2.4Vp-p.



2.4 Vp-p

oscilloscope

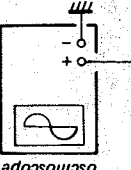
AV LEVEL ADJUSTMENT

1. Connect an oscilloscope to the DET OUT (Q408 E).

2. Input a color-bar signal (RF: color-bar 87.5% TV modulation).

3. Turn the TV/VIDEO select switch ON or OFF, and adjust RV401 so that the signal levels of TV and VIDEO are same.

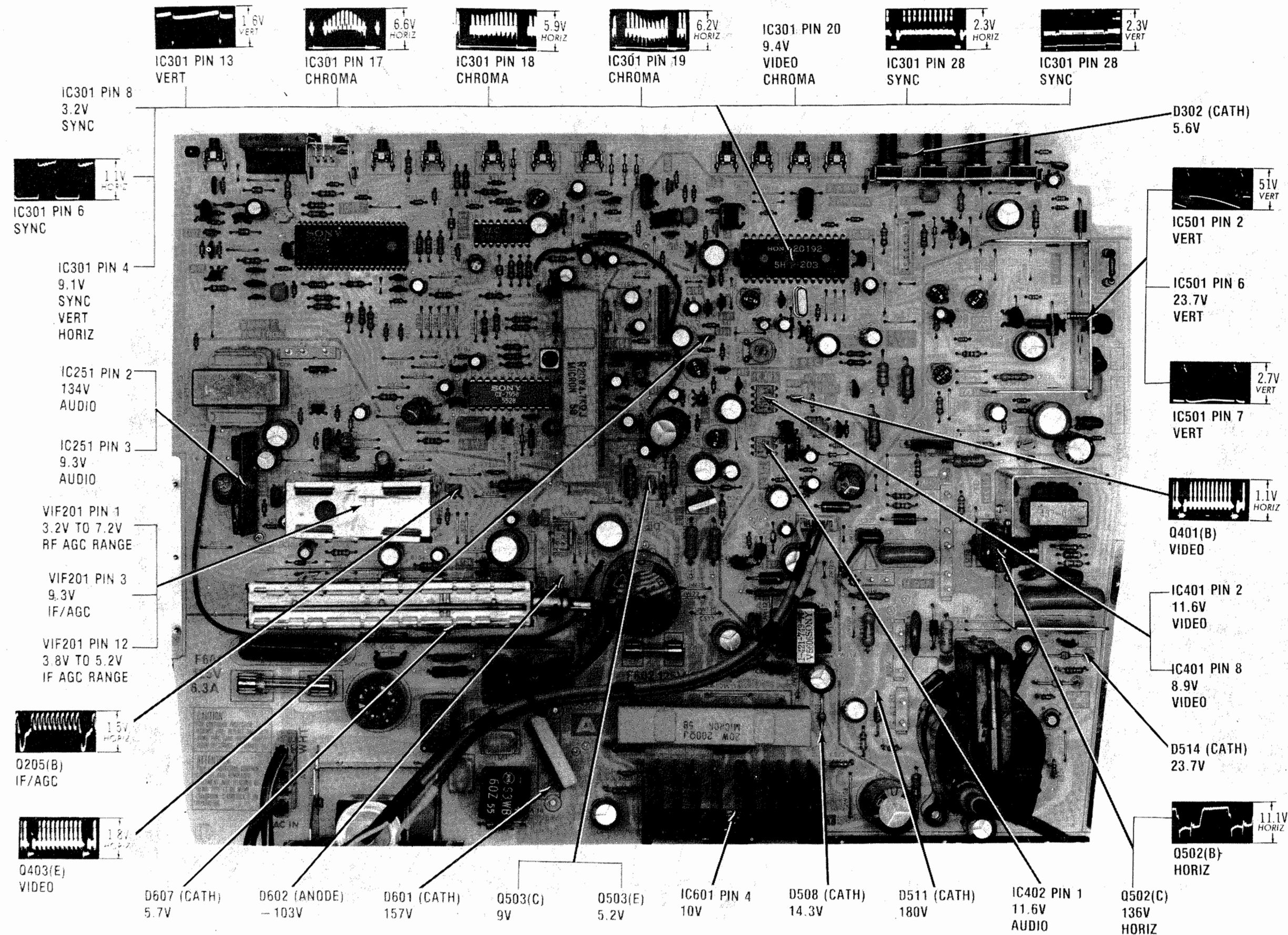
4. Connect an oscilloscope to the pin (4) of IC404.



oscilloscope

Courtesy of Manufacturer

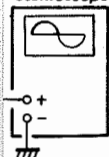
A BOARD ADJUSTMENTS



SONY MODELS KV-1370R, KV-1396R,
KV-1397R(CH, SCC-648A-A/B-A/C-A


5. Input a dot-signal.
(RF: dot signal AUDIO 400 Hz (100% modulation)
(AUDIO: 400 Hz-5.6 dBs (0.408 Vrms)
6. Turn the TV/VIDEO select switch ON or OFF and adjust RV402 so that the signal levels of TV and AUDIO are same.

oscilloscope



4-3. SAFETY RELATED ADJUSTMENT

R524 ADJUSTMENT (HOLD DOWN)

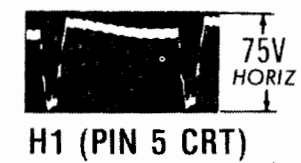
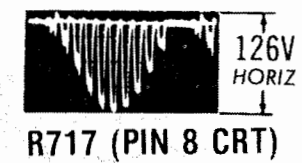
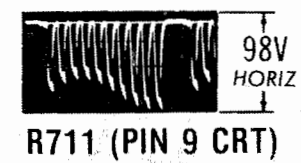
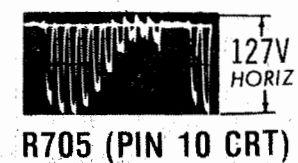
When replacing the following components (marked with  on the schematic diagram), perform the adjustment as follows.

R521, R522, R523, R524, R530, R534
C307, C524, D502, D512, T503, IC301

- 1) Receive the dot signal
PICTURE VR MIN
BRIGHT VR MIN
- 2) +B voltage check
Confirm that the +B voltage 135V LINE is less than 136.2 V dc during input of 130 ± 3.0 V ac.
- 3) Protector voltage check
Confirm that a voltage of 20.0 ± 1.3 V dc appears between TP85 and ground during input of 120 ± 3.0 V dc between TP85 and ground.
- 4) Operation check
Confirm that the hold-down circuit operates (the raster disappears) by adding 22.75 ± 0.05 V dc between TP85 and ground.
- 5) Receive the dot signal.
- 6) Input of 120 ± 3.0 V ac.
- 7) Error operation check
Confirm that, applying 140 ± 1.0 V dc to +B voltage (135V LINE), the hold-down circuit does not operate when changing the channel.

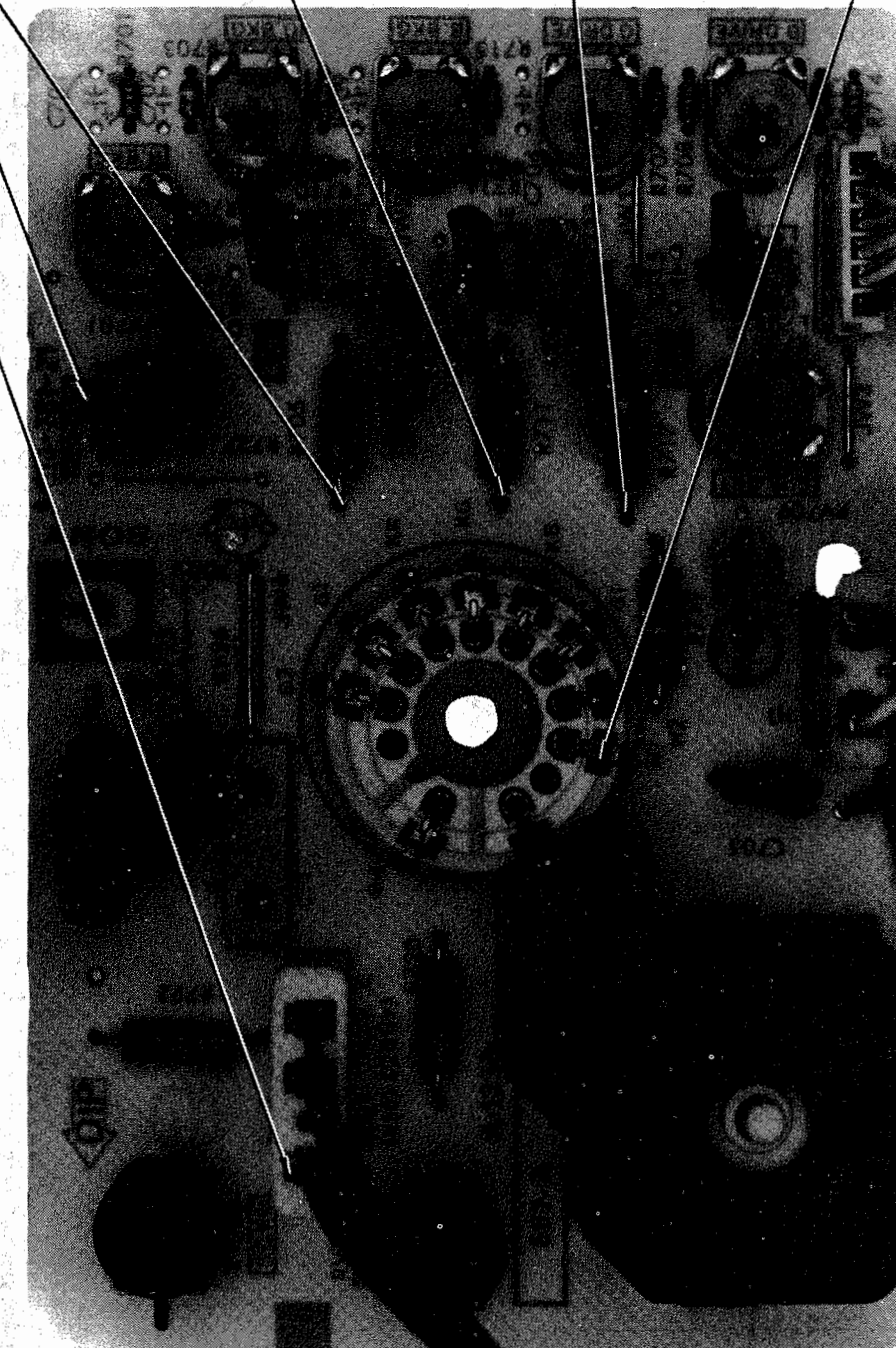
CHECK AFTER IC601 REPLACEMENT

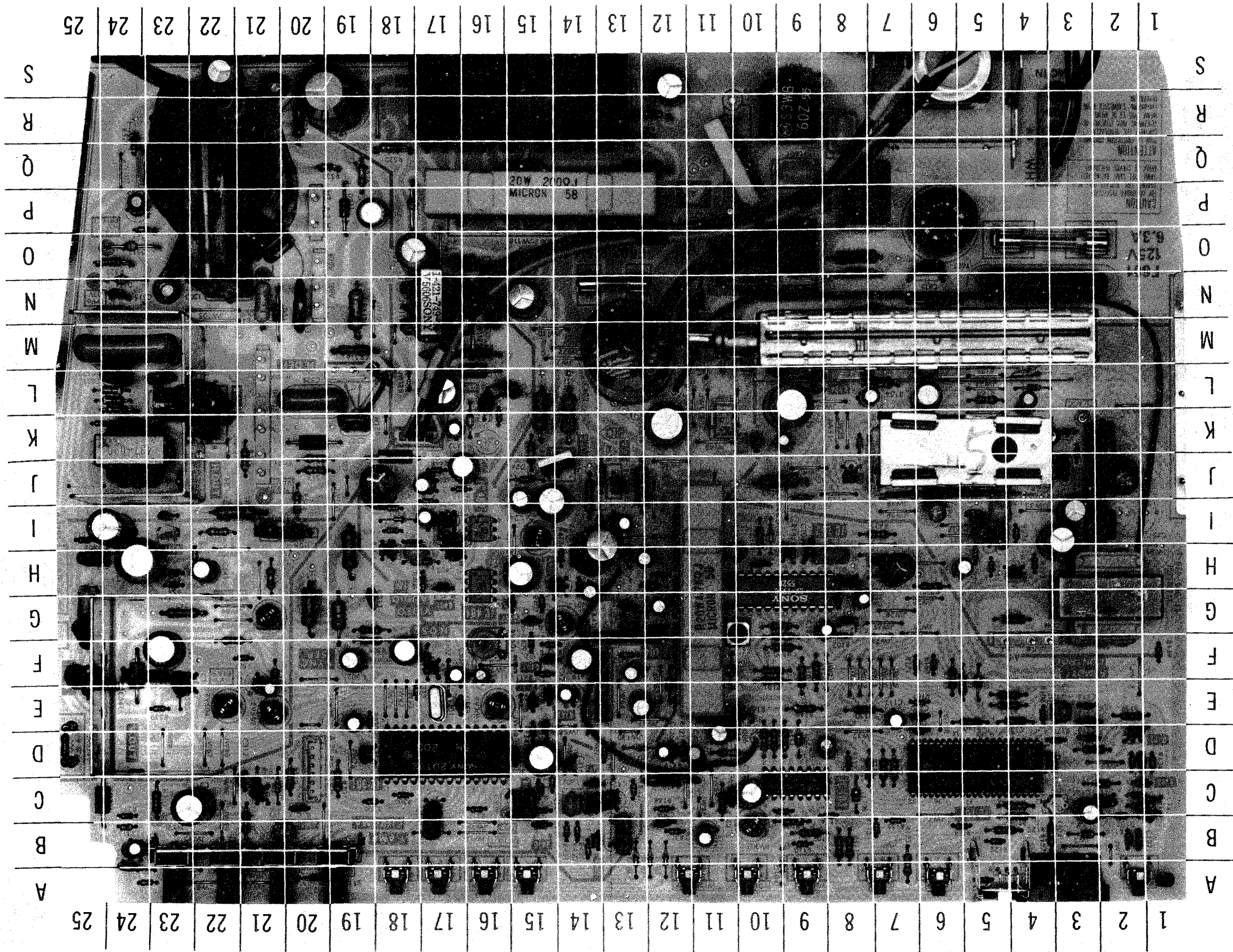
1. Supply 130 ± 3.0 V ac to with variable auto-transformer.
2. Receive the dot signal.
3. PICTURE VR MIN
BRIGHT VR MIN
4. Confirm that the +B voltage (at TP91) is less than 136.2V dc.
5. If step 4 is not satisfied, replace IC601 in A board and repeat above steps.

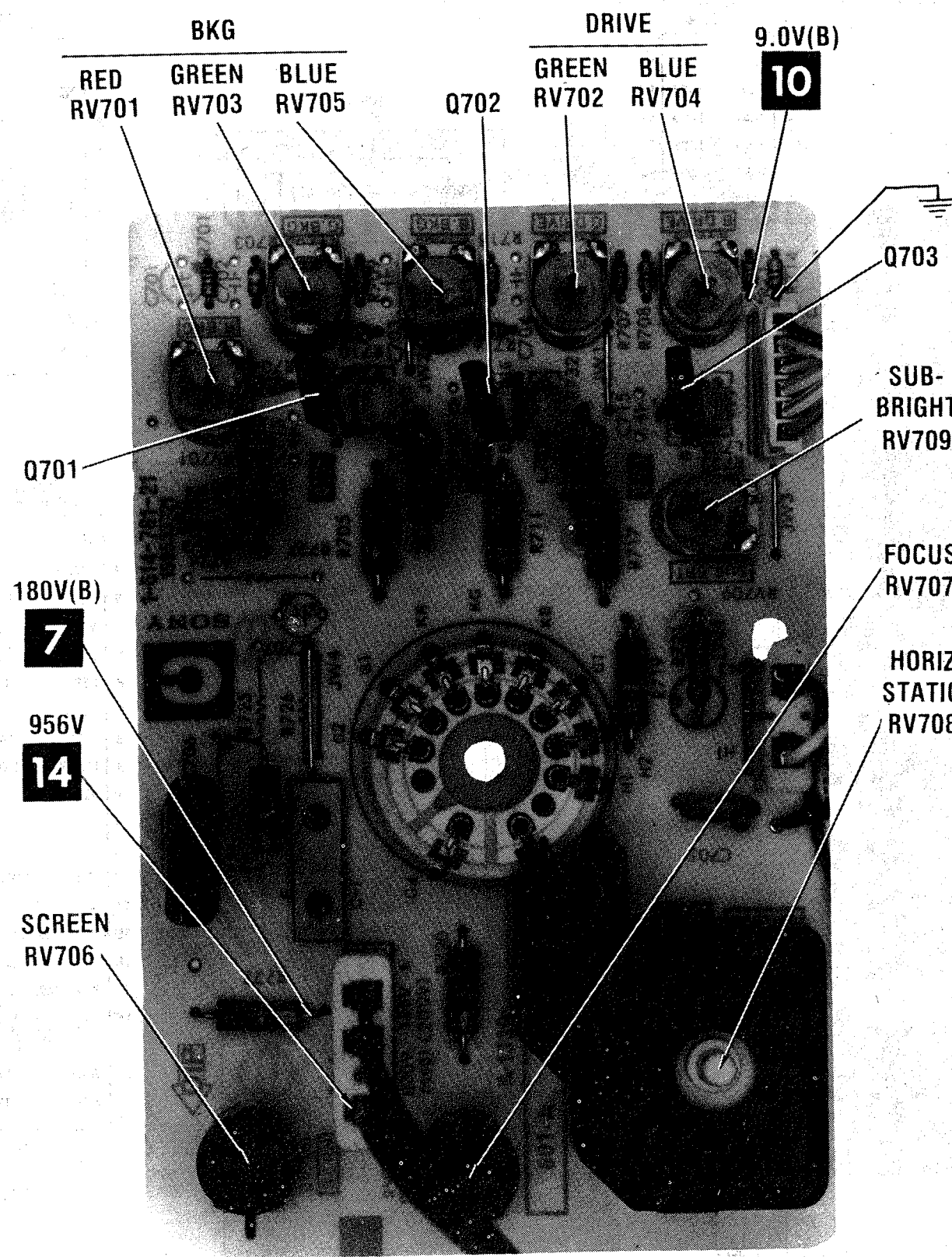


L704
180V

PIN 1
PLUG C-4
800V





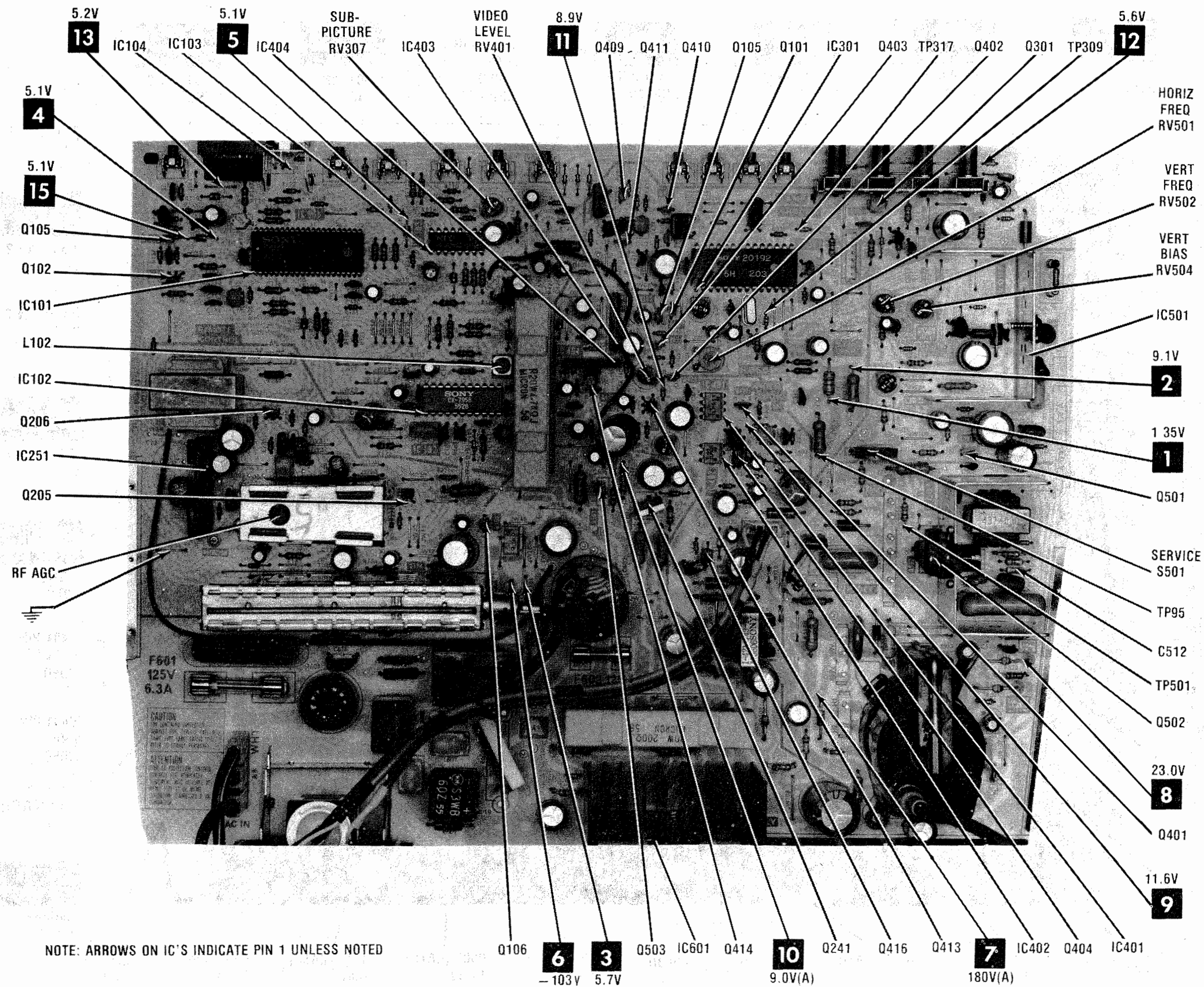


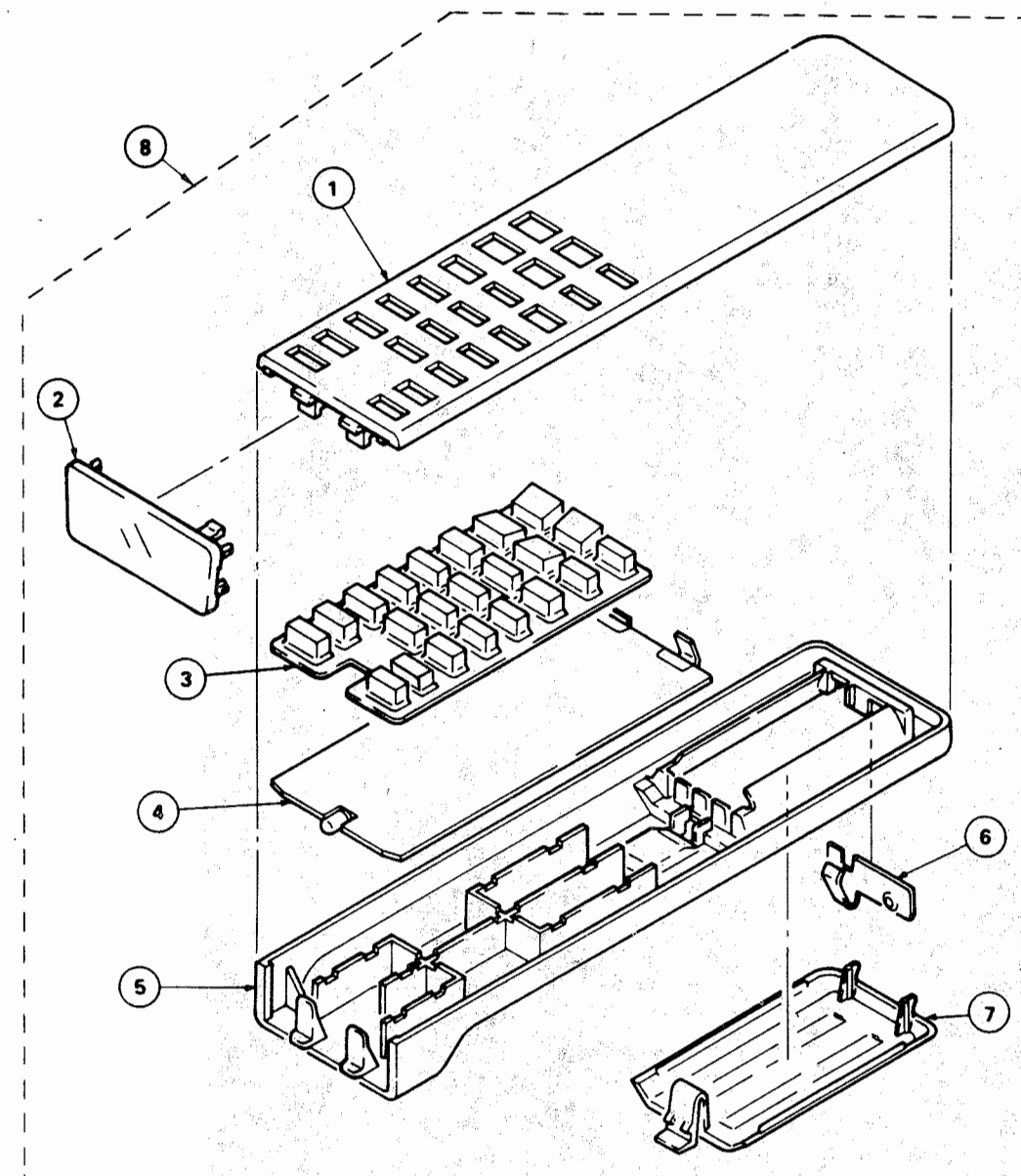
C (CRT) BOARD-
GridTrace
LOCATION GUIDE

C1	J-3
C2	H-10
C3	B-10
C4	L-4
C705	I-9
C706	I-1
L701	C-4
L702	C-6
L703	C-9
L704	E-2
Q701	C-3
Q702	C-6
Q703	C-8
R701	B-2
R703	B-2
R704	C-2
R705	E-4
R706	E-2
R707	B-7
R708	B-8
R709	B-4
R710	B-4
R711	E-6
R712	D-5
R713	B-9
R714	B-10
R715	B-6
R716	B-6
R717	E-7
R718	D-7
R719	G-7
R720	L-5
R721	G-8
R722	L-2
R723	I-2
RV701	C-2
RV702	B-7
RV703	B-3
RV704	B-9
RV705	B-5
RV706	F-2
RV707	F-5
RV708	F-9
RV709	F-9

	1	2	3	4	5	6	7	8	9	10	
A											A
B											B
C											C
D											D
E											E
F											F
G											G
H											H
I											I
J											J
K											K
L											L
M											M
N											N
O											O
	1	2	3	4	5	6	7	8	9	10	

SONY MODELS KV-1370R, KV-1396R,
KV-1397R/CH, SCC-648A-A/B-A/C-A





REMOTE CONTROL TRANSMITTER CASE

PARTS LIST

No.	Part No.	Description	No.	Part No.	Description
1	4-354-868-31	CASE, UPPER	5	4-370-642-01	CASE, LOWER
2	4-370-640-01	FILTER	6	4-350-925-00	TERMINAL (C), BATTERY
3	4-354-865-01	SHEET, RUBBER	7	4-370-639-01	COVER, BATTERY
4	1-614-210-21	RC BOARD	8	A-1470-695-A	COMMANDER ASSY (RM-729)

Courtesy of Manufacturer

A (MAIN) BOARD-GridTrace LOCATION GUIDE

A0	K-11	C402	H-18	D108	A-3	Q403	F-15	R170	D-3	R452	F-13	S110	A-6
A2	C-20	C403	H-17	D109	A-4	Q404	I-17	R171	F-7	R501	G-19	S111	A-2
A3	H-20	C404	G-15	D241	J-15	Q408	C-15	R205	K-5	R502	I-19	S113	B-19
A4	P-9	C406	J-17	D301	C-24	Q409	B-14	R208	K-5	R503	G-20	S501	I-20
A5	F-4	C407	J-17	D302	A-20	Q410	B-15	R214	K-3	R505	L-24	T251	G-2
A6	K-17	C408	H-14	D303	C-21	Q411	C-14	R220	F-9	R506	H-21	T401	N-17
A7	P-20	C409	N-16	D402	K-16	Q413	H-14	R221	K-8	R507	F-21	T501	K-24
A8	Q-3	C410	H-15	D405	I-18	Q414	G-13	R222	H-6	R508	H-25	T503	K-22
C101	H-8	C411	Q-13	D406	L-16	Q416	L-16	R223	H-4	R510	F-21	T601	P-6
C102	H-9	C412	B-13	D407	D-13	Q501	I-23	R224	H-5	R511	K-25	TH301	A-24
C103	L-4	C413	L-15	D501	F-24	Q502	L-22	R226	I-4	R512	I-25	THP601	Q-10
C105	H-11	C414	G-13	D502	F-17	Q503	J-13	R227	E-5	R513	J-20	TP12	C-16
C106	G-11	C415	F-13	D503	I-13	R101	F-10	R228	H-5	R515	K-20	TP95	I-19
C107	Q-3	C416	L-17	D504	K-20	R102	F-8	R231	J-9	R516	M-19	TP309	E-18
C108	D-8	C418	G-12	D505	E-23	R103	G-9	R241	L-14	R517	N-19	TP317	C-18
C109	I-6	C419	F-14	D508	P-18	R104	F-9	R242	K-15	R518	N-21	TP501	K-22
C110	I-5	C420	M-17	D511	P-19	R105	F-9	R250	I-2	R519	K-21	VIF201	K-5
C111	F-23	C422	K-17	D512	Q-24	R106	F-4	R251	K-3	R520	Q-18	X301	E-17
C112	K-9	C424	H-14	D513	N-21	R107	B-7	R261	G-4	R521	P-24		
C113	E-3	C425	E-14	D514	N-24	R108	B-9	R301	F-19	R522	Q-24		
C114	E-3	C426	D-12	D515	Q-16	R109	C-9	R303	C-23	R523	N-24		
C115	D-3	C430	H-12	D601	R-9	R110	B-9	R304	C-19	R524	D-25		
C116	B-11	C431	L-15	D602	M-11	R111	B-8	R305	C-18	R525	I-22		
C117	E-7	C432	H-12	D604	K-6	R112	B-8	R306	C-18	R526	Q-19		
C118	G-8	C433	D-11	D605	N-11	R113	B-7	R307	B-21	R527	R-20		
C119	Q-2	C435	I-17	D606	D-11	R114	C-8	R308	C-21	R528	S-23		
C120	E-6	C501	F-18	D607	N-7	R115	D-10	R310	B-12	R529	R-24		
C121	D-6	C503	E-21	DY1	J-21	R116	D-9	R311	C-24	R530	E-19		
C122	G-8	C505	H-25	F601	Q-2	R117	D-8	R312	C-20	R533	Q-19		
C123	H-9	C506	I-13	F602	N-13	R118	B-2	R313	E-18	R534	G-19		
C125	Q-1	C507	G-25	IC101	D-4	R120	B-5	R314	B-23	R535	F-22		
C126	H-11	C508	I-23	IC102	H-8	R121	A-5	R315	B-24	R537	J-14		
C127	G-8	C509	J-23	IC103	D-9	R122	B-5	R316	A-24	R538	J-13		
C128	L-6	C510	F-16	IC104	A-5	R123	A-7	R317	C-16	R539	E-23		
C129	L-9	C511	L-24	IC251	I-2	R124	B-4	R401	I-18	R540	I-22		
C130	L-7	C512	L-24	IC301	E-16	R125	C-4	R402	H-17	R541	H-23		
C132	B-2	C515	H-24	IC401	H-16	R126	D-7	R403	I-18	R542	H-23		
C133	D-1	C518	P-18	IC402	I-16	R127	D-7	R404	H-18	R543	G-23		
C135	E-15	C519	S-20	IC403	F-13	R128	B-7	R405	I-18	R544	J-20		
C136	Q-11	C520	L-23	IC404	G-13	R129	J-6	R406	H-17	R545	H-22		
C137	Q-10	C521	L-24	IC501	F-25	R130	I-5	R407	G-15	R552	L-15		
C138	E-4	C522	H-24	IC601	S-14	R131	F-10	R408	F-15	R601	G-9		
C139	H-9	C523	S-22	L101	H-8	R132	D-8	R409	F-15	R602	Q-10		
C140	H-7	C524	E-19	L102	Q-10	R133	F-17	R410	G-14	R603	Q-15		
C141	H-10	C525	P-24	L103	E-3	R134	D-15	R411	F-15	R604	Q-12		
C142	Q-8	C527	K-19	L104	Q-3	R135	D-2	R413	J-17	R605	R-12		
C143	D-4	C528	L-20	L105	F-11	R136	C-2	R414	J-17	R606	P-15		
C217	J-15	C529	H-20	L106	D-9	R137	C-2	R416	H-14	R607	R-12		
C225	I-3	C530	I-24	L107	B-4	R138	D-1	R417	H-14	R610	J-13		
C230	E-13	C531	Q-16	L108	Q-8	R139	E-2	R418	H-14	R612	Q-8		
C231	H-5	C533	H-15	L109	E-12	R140	D-2	R419	D-12	R613	Q-8		
C240	J-15	C541	F-24	L110	E-5	R142	E-4	R420	M-16	R614	F-11		
C250	K-3	C542	F-23	L111	Q-2	R143	F-6	R421	D-12	R615	N-12		
C252	I-3	C543	F-23	L201	J-5	R145	E-4	R422	D-13	R616	Q-16		
C253	J-2	C544	H-24	L301	B-21	R146	E-10	R425	C-14	RV301	B-22		
C254	J-3	C545	H-22	L302	C-14	R147	D-3	R426	H-15	RV302	B-22		
C257	I-5	C551	P-17	L401	H-18	R148	C-12	R427	C-13	RV303	B-23		
C258	I-5	C552	Q-18	L501	L-23	R149	F-1	R428	C-12	RV306	E-16		
C302	F-19	C553	E-17	L503	Q-24	R150	E-8	R429	B-14	RV307	B-10		
C303	D-15	C557	F-25	L504	Q-25	R152	I-10	R430	B-14	RV401	Q-14		
C304	C-17	C601	H-3	L601	Q-9	R153	J-10	R431	B-14	RV402	I-15		
C305	B-24	C602	H-13	L602	R-8	R154	L-7	R432	C-15	RV501	F-16		
C306	B-12	C603	S-12	Q101	E-15	R155	B-7	R433	C-14	RV502	E-21		
C307	F-17	C608	H-10	Q102	D-2	R157	B-4	R434	C-15	RV503	G-21		
C308	F-17	C614	K-12	Q103	C-2	R159	D-11	R435	I-7	RV504	E-22		
C309	C-15	C615	H-6	Q104	L-9	R160	E-5	R436	I-17	RY601	Q-10		
C310	D-19	C616	D-11	Q105	E-15	R161	E-6	R438	J-17	S101	A-12		
C311	C-21	D101	I-10	Q106	K-10	R162	C-11	R440	G-12	S102	A-18		
C312	C-21	D102	B-2	Q205	J-8	R163	D-10	R441	G-12	S103	A-16		
C313	G-19	D103	L-4	Q206	H-4	R164	L-5	R442	H-12	S104	A-10		
C314	D-15	D104	A-9	Q241	J-14	R165	H-9	R448	J-17	S105	A-7		
C316	D-14	D105	B-12	Q301	C-20	R166	E-11	R449	K-18	S107	A-17		
C317	C-23	D106	B-13	Q401	H-17	R168	F-6	R450	K-16	S108	A-15		
C401	J-18	D107	B-12	Q402	Q-15	R169	F-9	R451	H-13	S109	A-9		

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA					
			NOTES	NTE PART No.	ECG PART No.	RCA PART No.	WORKMAN PART No.	ZENITH PART No.
D101	1SS119 1S1555	8-719-911-19		NTE519	ECG519	SK3100/519	WEP925/519	103-131
D102	RD5.6E-L1	8-719-101-38		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D103	RD33E-B2	8-719-101-04		NTE5006A	ECG5006A	SK3A6/5006A	WEP1406/5006	103-Z9005
D104 thru D241	RD33E-B2			NTE5036A	ECG5036A	SK33A/5036A	WEP1438/5036	103-Z9004
	1SS119	8-719-911-19		NTE519	ECG519	SK3100/519	WEP925/519	103-131
	D107	1S1555		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
	D241	RD10E-N2	8-719-102-90		NTE5019A	ECG5019A	SK10A/5019A	WEP1420/5019	103-Z9010
D301	S1B01-02			NTE116	ECG116	SK3311	WEP156	212-76-02
	10E2	8-719-200-02		NTE116	ECG116	SK3311	WEP156	212-76-02
D302	RD5.6E-N2	8-719-102-71		NTE5011A	ECG5011A	SK5A6/5011A	WEP1412/5011	103-Z9007
D303	1SS119	8-719-911-19		NTE519	ECG519	SK3100/519	WEP925/519	103-131
	1S1555			NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D402	RD13E-N1	8-719-102-99		NTE5022A	ECG5022A	SK13A/5022A	WEP1424/5022	103-96
D405	1SS119	8-719-911-19		NTE519	ECG519	SK3100/519	WEP925/519	103-131
	1S1555			NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D406	S1B01-04			NTE5806	ECG5806	SK3848/5806	WEP4006/5806	212-Z9000
	ERD28-04S	8-719-928-04		NTE580	ECG580	SK5036/580	WEP4006/5806	212-Z9000
D407	1SS119	8-719-911-19		NTE519	ECG519	SK3100/519	WEP925/519	103-131
	1S1555			NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D501	S1B01-02			NTE116	ECG116	SK3311	WEP156	212-76-02
	GP08D			NTE156	ECG156	SK3051/156	WEP4008/5809	212-Z9000
	U05G	8-719-911-55		NTE5806	ECG5806	SK3848/5806	WEP4006/5806	212-Z9000
D502	RD5.6E-B2			NTE5011A	ECG5011A	SK5A6/5011A	WEP1412/5011	103-Z9007
	RD5.6E-BZ7S	8-719-100-35		NTE5011A	ECG5011A	SK5A6/5011A	WEP1412/5011	103-Z9007
D503	RD5.6E-N3	8-719-102-72		NTE5011A	ECG5011A	SK5A6/5011A	WEP1412/5011	103-Z9007
D504	S1B01-02			NTE116	ECG116	SK3311	WEP156	212-76-02
	GP08D			NTE156	ECG156	SK3051/156	WEP4008/5809	212-Z9000
	U05G	8-719-911-55		NTE5806	ECG5806	SK3848/5806	WEP4006/5806	212-Z9000
D505	1SS119	8-719-911-19		NTE519	ECG519	SK3100/519	WEP925/519	103-131
	1S1555			NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D508	V19E	8-719-901-93		NTE552	ECG552	SK9000/552	WEP172/506	103-287
	V19C			NTE552	ECG552	SK9000/552	WEP172/506	103-287

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA					
			NOTES	NTE PART No.	ECG PART No.	RCA PART No.	WORKMAN PART No.	ZENITH PART No.
D511	ERC24-06S RGP10G	8-719-924-06		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D512	V19CS	8-719-901-94		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D513	ES1F RGP01-17	8-719-300-65		NTE525	ECG525	SK3925/525	WEP177/525	212-29010
D514	V19E	8-719-901-93		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D515	V19C	8-719-901-93		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D601	S3MB60Z	8-719-503-06		NTE5315	ECG5315	SK3988/5315	WEP172/506	103-287
D602	S1B01-04 ERD28-04S	8-719-928-04		NTE5806	ECG5806	SK3848/5806	WEP4006/5806	212-29000
D604	U05G	8-719-911-55		NTE5806	ECG580	SK5036/580	WEP4006/5806	103-316-04
D605	S1B01-02 10E2	8-719-200-02		NTE116	ECG116	SK3311	WEP156	212-76-02
D606	RD5.1E-N2	8-719-102-68		NTE5010A	ECG5010A	SK5A1/5010A	WEP1411/5010	103-279-10
D607	U05G	8-719-911-55		NTE5806	ECG5806	SK3848/5806	WEP4006/5806	212-29000
IC101	CXQ88535-119S	8-759-918-29						
IC102	CX-7958	8-759-909-50						
IC103	CX7958	8-759-102-12						
IC104	uPD6250C BX1323	8-741-132-30						
IC251	BX-1357	8-741-135-70						
IC301	BX1357 20192 CX20192	8-752-019-20						
IC401	TLP551	8-719-800-43						
IC402	TLP531	8-719-800-83						
IC403	20061 CX20061 CX-20061	8-752-006-10		NTE3041	ECG3041	SK2041/3041		

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

ELECTROLYTIC CAPACITORS Items Not Listed Are Normally Available At Local Distributors.

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
C432	.47 50V NP	1-124-655-11	C544	680 25V 10%	1-124-117-00
C510	4.7 16V NP	1-124-283-00	C602	330 200V 20%	1-125-338-00

For SAFETY use only equivalent replacement part.

CAPACITORS Items Not Listed Are Normally Available At Local Distributors.

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
# C409	.0047 400V 20%	1-161-953-00	# C522	.0055 1.4KV 3%	1-136-063-11
		1-161-953-51 (1)	# C601	.22 125VAC 20%	1-130-682-55
# C520	330 2KV 10%	1-162-115-51			

For SAFETY use only equivalent replacement part.

(1) Models KV-1396R, KV-1397R.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
RV301	Brightness	20K	1-230-815-11 (1)	
RV302	Color	20K	1-230-815-11 (1)	
RV303	Hue	20K	1-230-815-11 (1)	
RV306	FSC	3300	1-228-992-11	
RV307	Sub Picture	220K	1-228-998-00	
RV401	Video Level	2200	1-228-991-00	
RV402	Audio Level	4700	1-228-993-00	
RV501	Horizontal Frequency	100K	1-228-997-00	
RV402	Vertical Frequency	47K	1-228-996-00	
RV503	Vertical Size	3300	1-228-992-11	
RV504	Vertical Center	10K	1-228-994-00	
RV701	Red Background	4700	1-230-104-00	
RV702	Green Drive	3300	1-230-105-00	
RV703	Green Background	4700	1-230-104-00	
RV704	Blue Drive	3300	1-230-105-00	
RV705	Blue Background	4700	1-230-104-00	
RV706	Screen	2.2M	1-230-641-11	
RV707	Focus	2.2M	1-230-641-11	
RV708	Horizontal Stat	90m	1-230-798-11	
RV709	Sub Brightness	22K	1-230-409-11	

(1) Part of Control Block 1-230-815-11 (20K x 3).

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	WORKMAN PART No.
R153	10K 5% 2W Metal Oxide Nonflammable	1-215-898-11	2W310	22-4120
R166	100 5% 1W Metal Oxide Nonflammable	1-213-131-00	1W110	22-3072
R205	33K 1% 1/6W Metal Film	1-215-457-00		
R208	33K 1% 1/4W Metal Film	1-214-765-00		
R214	680 5% 1/8W Carbon Film Nonflammable	1-249-415-11	QW168	22-1092
R231	4.7 5% 1/8W Carbon Film Nonflammable	1-249-389-11	QW407	22-1040
R241	33 5% 1W Metal Oxide Nonflammable	1-213-125-00	1W033	22-3060
R301	47K 1% 1/4W Metal Film	1-214-769-00		

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	WORKMAN PART No.
R406	100 5% 1/8W Carbon Film Nonflammable	1-249-405-11	QW110	22-1072
R420	1000 5% 1W Metal Oxide Nonflammable	1-215-869-11	1W210	22-3096
R436	330 5% 1/4W Carbon Film Nonflammable	1-247-119-00	QW133	22-1084
	330 5% 1/4W Carbon Film Nonflammable	1-247-706-11 (1)	QW133	22-1084
	4.7M 10% 1/2W Carbon Comp	1-202-727-00		22-2184
# R449	300K 1% 1/4W Metal Film	1-214-788-00		
R501	3900 5% 2W Metal Oxide Nonflammable	1-216-460-11	2W239	22-4110
R502	3900 5% 2W Metal Oxide Nonflammable	1-216-460-11	2W239	22-4110
R503	12K 5% 1/4W Carbon Film Nonflammable	1-249-459-11	QW312	22-1122
R505	1800 5% 1W Metal Oxide Nonflammable	1-216-434-11	1W218	22-3102
R516	1000 5% 2W Metal Oxide Nonflammable	1-215-892-11	2W210	22-4096
R517	1800 5% 1W Metal Oxide Nonflammable	1-213-146-00	1W218	22-3102
R518	1800 5% 1W Metal Oxide Nonflammable	1-249-447-11	QW1D0	
R520	1.5 5% 1/8W Carbon Film Nonflammable	1-249-383-11	QW1D5	
R521	15K 1% 1/4W Metal Film	1-215-854-51		
R522	5600 1% 1/4W Metal Film	1-214-747-00		
R523	56K 5% 1/4W Carbon Film		QW356	22-1138
# R524	3900 5% 2W Metal Oxide Nonflammable	1-216-460-5	2W309	22-4110
# R525	120K 1% 1/2W Metal Film	1-214-915-00		
R527	3300 5% 1/8W Carbon Film Nonflammable	1-249-423-11	QW233	22-1108
R529	1.5 5% 1/8W Carbon Film Nonflammable	1-249-383-11	QW1D5	
R533	82 5% 1W Metal Oxide Nonflammable	1-216-426-11	1W082	22-3070
R537	1.2 5% 1W Metal Oxide Nonflammable	1-216-350-11	1W1D2	
R543	6.8 5% 2W Metal Oxide Nonflammable	1-216-379-11	2W6D8	
R552	2M 10% 1/2W Carbon Comp	1-202-719-51	HW510	22-2168
# R601	2.2 5% 10W WW	1-205-707-00	10W2D2	
R602	2.2 5% 2W Metal Oxide Nonflammable	1-216-373-11	2W2D2	
R603	15K 5% 2W Metal Oxide Nonflammable	1-215-899-11	2W315	22-4124
R604	200 5% 20W WW	1-205-700-00		
R606	47 5% 1/4W Carbon Film Nonflammable	1-247-099-00	QW047	22-1064
R607	6800 5% 2W Metal Oxide Nonflammable	1-215-897-11	2W268	22-4116
R610	560 5% 1W Metal Oxide Nonflammable	1-216-431-51	1W156	22-3090
# R612	4700 5% 20W WW	1-205-744-11		
R614	3300 5% 2W Metal Oxide Nonflammable	1-215-895-51	2W233	22-4108
# R615	.22 590 2W Metal Oxide Nonflammable	1-216-361-51	2WD22	
R616	15K 5% 2W Metal Oxide Nonflammable	1-206-692-00	2W315	22-4124
R706	15K 5% 2W Metal Oxide Nonflammable	1-206-692-00	2W315	22-4124
R712	15K 5% 2W Metal Oxide Nonflammable	1-206-692-00	2W315	22-4124
R718	.82 5% 1W Metal Oxide Nonflammable	1-212-359-00	1WD82	
R721	10K Cold NTC	1-800-202-XX		FR1007
# TH301	5.1 Cold PTC	1-800-686-51		FR605
# TH601				

For SAFETY use only equivalent replacement part.

(1) Models KV-1396R, KV1397R.

COILS (RF-IF)

ITEM No.	FUNCTION	MFGR. PART No.	ITEM No.	FUNCTION	MFGR. PART No.
L101	Peaking (1uH)	1-407-717-00	L302	Peaking (33uH)	1-408-415-00
L102	Indicator Adjust	1-404-538-11	L401	RF Choke (8.2uH)	1-408-441-31
L103	Peaking (82uH)	1-408-420-00	L501	RF Choke (.7uH)	1-407-365-00
L104	RF Choke (.22uH)	1-408-877-00	L503	RF Choke (33uH)	1-407-699-00
L105	Peaking (6.8uH)	1-410-019-31	L504	RF Choke (15uH)	
L106	RF Choke (4.7uH)	1-410-017-11	# L601	RF Choke (3.3uH)	1-408-225-11
L107	RF Choke (4.7uH)	1-410-017-11	# L602	RF Choke (3.3uH)	1-408-225-11
L108	RF Choke (4.7uH)	1-410-017-11	L701	Peaking (82uH)	1-408-420-00
L109	RF Choke (4.7uH)	1-410-017-11	L702	Peaking (82uH)	1-408-420-00
L110	RF Choke (3.3uH)		L703	Peaking (82uH)	1-408-420-00
L111	RF Choke (3.3uH)		L704	RF Choke (180uH)	1-408-424-00
L201	RF Choke (8.2uH)	1-408-441-31	# T601	Line Filter	1-421-357-31
L301	Peaking (6.8uH)	1-408-407-00	# T601	Line Filter	1-421-592-1 (1)

For SAFETY use only equivalent replacement part.

(1) Canadian Models.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA				
			NOTES	NTE PART No.	ECG PART No.	RCA PART No.	WORKMAN PART No. ZENITH PART No.
IC404	20061						
IC501	CX20061	8-752-006-10					
# IC601	LA7830	8-759-801-98					
	STR30135	8-749-901-35					
Q101	2SC2603	8-729-245-83		NTE289A	ECG289A	SK9137/382	MEP910/289 921-1114
Q102	2SC2458	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
	2SC2785	8-729-245-83		NTE290A	ECG290A	SK3124A/289A	MEP910/289 921-1114
Q103 thru	A933	8-729-204-83		NTE290A	ECG290A	SK3114A/290A	MEP911/290A 121-Z9003*
	2SC2603	8-729-245-83		NTE289A	ECG289A	SK9137/382	MEP910/289 921-1114
Q105	2SC2458	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
Q106	2SC2785	8-729-255-12		NTE399	ECG399	SK9352/399	MEP68/287 121-Z9045
	2SC251R	8-729-255-12		NTE399	ECG399	SK9352/399	MEP68/287 121-Z9045
Q205, 206	A933	8-729-204-83		NTE290A	ECG290A	SK9132	MEP911/290A 121-Z9003*
Q241	2SA1048GR	8-729-204-83		NTE290A	ECG290A	SK3114A/290A	MEP911/290A 121-Z9003*
	2SA1175	8-729-288-02		NTE290A	ECG290A	SK3114A/290A	MEP911/290A 121-Z9003*
Q301	A933	8-729-204-83		NTE290A	ECG290A	SK3114A/290A	MEP911/290A 121-Z9003*
Q401 thru	2SA1048GR	8-729-245-83		NTE289A	ECG289A	SK9137/382	MEP910/289 921-1114
	2SC2603	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
Q404	2SC2458	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
Q408, 409	A933	8-729-204-83		NTE290A	ECG290A	SK9132	MEP911/290A 121-Z9003*
Q410, 411	2SA1048GR	8-729-204-83		NTE290A	ECG290A	SK3114A/290A	MEP911/290A 121-Z9003*
	2SC2603	8-729-245-83		NTE289A	ECG289A	SK9137/382	MEP910/289 921-1114
	2SC2458	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
	2SC2785	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA				
			NOTES	NTE PART No.	ECG PART No.	RCA PART No.	WORKMAN PART No. ZENITH PART No.
Q413, 414	2SC2603	8-729-245-83		NTE289A	ECG289A	SK9137/382	MEP910/289 921-1114
Q416	2SC2458	8-729-245-83		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
	2SC2785	8-729-177-43		NTE85	ECG85	SK3124A/289A	MEP910/289 921-1114
Q501	2SD789E	8-729-168-82		NTE315	ECG315	SK9137/382	MEP922/315 921-1251
	2SD774	8-729-802-50		NTE382	ECG382	SK3250/315	MEP922/315 921-1114
Q502	2SC2610BK	8-729-168-82		NTE399	ECG399	SK9352/399	MEP68/287 121-Z9045*
Q503	2SC2688	8-729-177-43		NTE157	ECG157	SK3747/157	MEP61/157 121-Z9016
	2SD1649	8-729-177-43		NTE157	ECG157	SK3747/157	MEP61/157 121-Z9016
Q701 thru	2SD789E	8-729-177-43		NTE315	ECG315	SK9137/382	MEP922/315 921-1251
Q703	2SD774	8-729-177-43		NTE382	ECG382	SK3250/315	MEP922/315 921-1114
	2SC2611	8-729-177-43		NTE157	ECG157	SK3747/157	MEP61/157 121-Z9016

For SAFETY use only equivalent replacement part.
* Lead configuration may vary from original.

WIRING DATA

High Voltage Lead	Use BELDEN No. 9867 (30 KV)
Shielded Hook-up Wire	Use BELDEN No. 8401 or 8421 (Single-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8208 (Two-Conductor)
	8529 (Solid) Available in 13 Colors
	8522 (Stranded) Available in 13 Colors
300-Ohm Tuner Input Lead	Use BELDEN No. 8225
75-Ohm Tuner Input Lead	Use BELDEN No. 8241
300-Ohm Antenna Lead-in	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) 4-Conductor
	8485 (Round) 5-Conductor
	8488 (Round) 8-Conductor

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

COILS & TRANSFORMERS

ITEM No.	FUNCTION	MFGR. PART No.	OTHER IDENTIFICATION	NOTES
# DY	Yoke Horiz 3.99mH 90° Vert 20.6mH	1-451-234-22	1-451-234-12 (1)	
# T251	Audio Output	1-427-530-12 (1)(2)		
# T251	Audio Output	1-427-479-11 (3)		
# T401	Isolation	1-421-749-11 (1)		
# T501	Horizontal Driver	1-437-090-00 (1)		
# T503	Horizontal Output	1-439-314-21	1-439-314-22 (1)	

For SAFETY use only equivalent replacement part.
(1) Number on unit.
(2) Used In USA version.
(3) Used In Canadian version.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP901	3" PM 8 Ohms	1-503-344-11	30A05Z8R	

FUSE DEVICES

ITEM NO.	DESCRIPTION	MFGR. PART NO.		NOTES
		DEVICE	HOLDER	
# F601	6.3A @ 125V Fast-Acting	1-532-509-11	1-533-127-00 (1)	
# F602	1A @ 125V Fast-Acting	1-532-536-11	1-533-146-00 (1)	

For SAFETY use only equivalent replacement part.
(1) Two used for each fuse.

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
# CP201	Component Combination		
# CP901	Antenna Balun Assembly		
# EJ901	Jack	1-507-756-00	Earphone
# L901	Degaussing Coil	1-426-146-22	USA Versions
	Degaussing Coil	1-426-146-31	Canadian Versions
# RY601	Relay	1-515-346-13	USA Versions
	Relay	1-515-346-22	Canadian Versions
S101	Switch	1-554-804-11	Video/RF
S102	Switch	1-554-804-11	Erase
S103	Switch	1-554-804-11	Picture-Down
S104	Switch	1-554-804-11	Volume-Down
S105	Switch	1-554-804-11	Channel-Down
S107	Switch	1-554-804-11	Add
S108	Switch	1-554-804-11	Picture-Up
S109	Switch	1-554-804-11	Volume-Up
S110	Switch	1-554-804-11	Channel-Up
# S111	Switch	1-554-804-11	Power On/Off
S113	Switch	(1)	Cable
S501	Switch	1-554-186-00	Vertical Centering
# TU101	UHF/VHF Tuner	1-463-603-11	
# V901	CRT	A34JBU10X	

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
VIF201	Video IF Module	1-464-478-11	IFB-450
X301	Crystal	1-527-396-00	3.58MHz Oscillator
	Antenna	1-501-276-00	UHF/VHF, RUSSELL Replacement Assembly POR-SON.
	Antenna Rod		RUSSELL Replacement Antenna Rod, SIM-18H.
	Cord	1-551-603-11	AC Power
	Earphone	1-504-103-11	
	Light	4-374-987-01	Guide
	Magnet	X-4309-608-0	Permalloy Assembly-Convergence
	Magnet	1-452-032-00	Disk 10mm
	Magnet	1-452-094-00	Rotatable Disk 15mm
	Magnet		BMC
	P.C. Board	A-1295-976-A	"A" (Main) Board Complete-USA Versions
	P.C. Board	A-1296-007-A	"A" (Main) Board Complete-Canadian Versions
	P.C. Board	A-1330-601-A	"C" (CRT) Board Complete
	P.C. Board	1-614-794-11	"K" Board Complete
	Socket	1-526-819-11	CRT

For SAFETY use only equivalent replacement part.
(1) Part of Control Block, Part Number 1-230-815-11.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	PART No.	PART No.	PART No.
MODELS:	KV-1370R USA Versions	KV-1370R Canadian Versions	KV-1396R	KV-1397R
Cabinet Back	4-374-948-11	4-374-948-71	4-374-948-41	4-374-948-51
Control Door Assembly-White	X-4374-913-1			
Control Door Assembly-Silver		X-4374-913-2		
Control Door Assembly-Leather	X-4374-913-3			
Control Door Assembly Handle-Left, White	4-374-921-51		X-4374-916-1	X-4374-916-2
Handle-Left, Leather	4-374-921-11		4-374-921-11	4-374-921-11
Handle-Left, Silver		4-374-921-41		
Handle-Right, White	4-374-920-51	4-374-920-41		
Handle-Right, Leather			4-374-920-11	4-374-920-11
Handle-Right, Silver			4-374-950-01	4-374-950-01
Pushbutton-Erase, Add, Picture Up, Picture Down (4 required)	4-374-950-01	4-374-950-01		
Pushbutton-Video/RF, Volume Down, Volume Up, Channel Down, Channel Up (4 required)	4-374-926-31	4-374-926-21	4-374-926-31	4-374-926-31
Pushbutton-Power	4-374-953-01	4-374-953-11	4-374-953-01	4-374-953-01
Window-Tuning	4-374-955-01	4-374-955-01	4-374-955-01	4-374-955-31

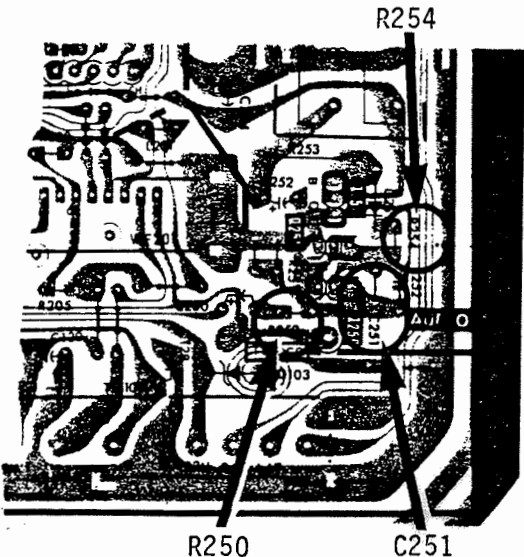
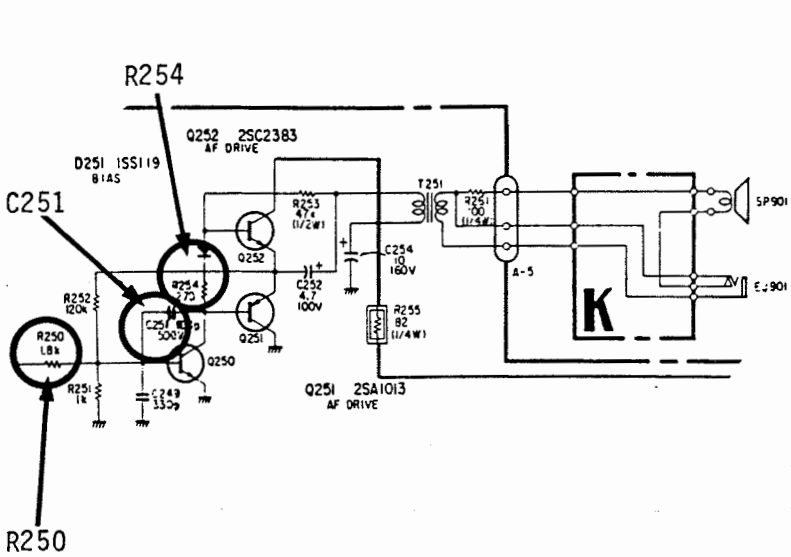
SONY MODELS KV-1370R, KV-1396R,

SERVICE TIPS

Symptom:
(151)
Failure of Q251/252 audio out transistors.

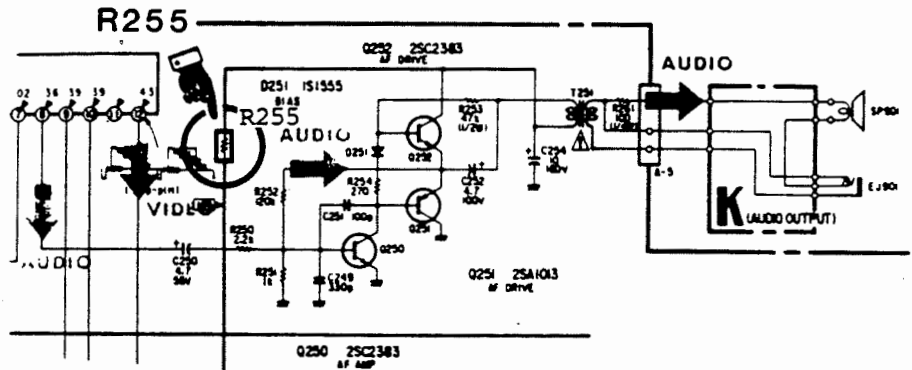
Solution:
Replace the components listed with new values as follows:

Ref. No.	Former		New	
	Description	Part Number	Description	Part Number
R254	Resistor, Carbon 270Ω/1/6W	1-247-817-00	Resistor, Carbon 120Ω/1/6W	1-247-809-00
R250	Resistor, Carbon 1.8K/1/6W	1-247-837-00	Resistor, Carbon 2.2KΩ/1/6W	1-249-421-11
C251	Capacitor, Ceramic 100pF/500V	1-162-117-00	Capacitor, Ceramic 330pF/500V	1-107-181-00



Symptom:
(**)
Reference number for B+ feed resistor to audio amp circuit on the "A" board.

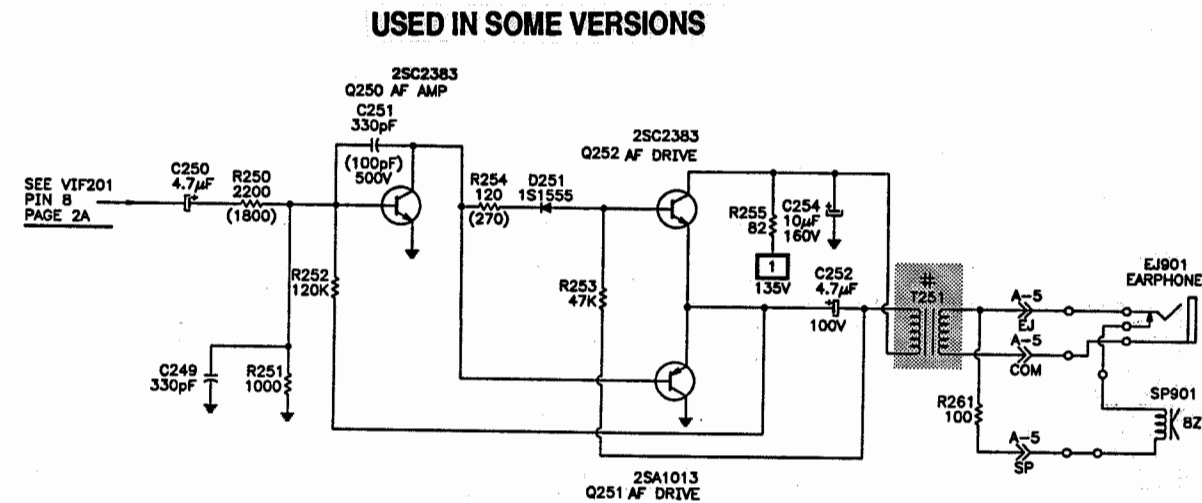
Solution:
Reference number should be R255 which is a 82Ω 1/4W resistor, part number 1-247-699-11.



SONY MODELS KV-1370R, KV-1396R,
KV-1397R/CH, SCC-648A-A/B-A/C-A

Courtesy of Manufacturer

ALTERNATE AUDIO CIRCUIT



PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
Q105	8-729-178-54	TRANSISTOR 2SC2785		R138	1-247-885-00	CARBON 180K 5%	1/6W
Q106	8-729-255-12	TRANSISTOR 2SC2551		R139	1-247-725-11	CARBON 10K 5%	1/4W
Q205	8-729-117-54	TRANSISTOR 2SA1175		R140	1-249-434-11	CARBON 27K 5%	1/6W
Q206	8-729-117-54	TRANSISTOR 2SA1175		R142	1-247-710-11	CARBON 560 5%	1/4W
Q241	8-729-288-02	TRANSISTOR 2SD880		R143	1-247-710-11	CARBON 560 5%	1/4W
Q250	8-729-238-32	TRANSISTOR 2SC2383		R145	1-247-725-11	CARBON 10K 5%	1/4W
Q251	8-729-201-32	TRANSISTOR 2SA1013		R147	1-247-717-11	CARBON 2.2K 5%	1/4W
Q252	8-729-238-32	TRANSISTOR 2SC2383		R148	1-249-429-11	CARBON 10K 5%	1/6W
Q301	8-729-117-54	TRANSISTOR 2SA1175		R149	1-249-429-11	CARBON 10K 5%	1/6W
Q407	8-729-117-54	TRANSISTOR 2SA1175		R150	1-247-717-11	CARBON 2.2K 5%	1/4W
Q408	8-729-178-54	TRANSISTOR 2SC2785		R152	1-249-469-11	CARBON 100K 5%	1/4W
Q409	8-729-178-54	TRANSISTOR 2SC2785		R153	1-215-898-11	METAL OXIDE 10K 5%	2W F
Q501	8-729-168-82	TRANSISTOR 2SC2688		R154	1-247-722-11	CARBON 5.6K 5%	1/4W
Q502	8-729-802-50	TRANSISTOR 2SD1649-CA		R155	1-249-433-11	CARBON 22K 5%	1/6W
Q503	8-729-177-43	TRANSISTOR 2SD774		R157	1-246-507-00	CARBON 27K 5%	1/4W
RESISTOR				R159	1-247-723-11	CARBON 6.8K 5%	1/4W
R101	1-249-462-11	CARBON 22K 5%	1/4W	R160	1-247-722-11	CARBON 5.6K 5%	1/4W
R102	1-249-414-11	CARBON 560 5%	1/6W	R161	1-249-425-11	CARBON 4.7K 5%	1/6W
R103	1-247-717-11	CARBON 2.2K 5%	1/4W	R162	1-249-469-11	CARBON 100K 5%	1/4W
R104	1-247-717-11	CARBON 2.2K 5%	1/4W	R163	1-249-460-11	CARBON 15K 5%	1/4W
R105	1-249-462-11	CARBON 22K 5%	1/4W	R164	1-247-713-11	CARBON 1K 5%	1/4W
R106	1-249-405-11	CARBON 100 5%	1/6W	R165	1-249-416-11	CARBON 820 5%	1/6W
R107	1-247-713-11	CARBON 1K 5%	1/4W	R166	1-213-131-00	METAL OXIDE 100 5%	1W F
R108	1-247-713-11	CARBON 1K 5%	1/4W	R168	1-249-417-11	CARBON 1K 5%	1/6W
R109	1-249-417-11	CARBON 1K 5%	1/6W	R169	1-247-713-11	CARBON 1K 5%	1/4W
R110	1-249-417-11	CARBON 1K 5%	1/6W	R170	1-249-417-11	CARBON 1K 5%	1/6W
R111	1-249-462-11	CARBON 22K 5%	1/4W	R171	1-249-417-11	CARBON 1K 5%	1/6W
R112	1-249-462-11	CARBON 22K 5%	1/4W	R205	1-249-435-11	CARBON 33K 5%	1/6W
R113	1-249-433-11	CARBON 22K 5%	1/6W	R208	1-249-435-11	CARBON 33K 5%	1/6W
R114	1-249-433-11	CARBON 22K 5%	1/6W	R221	1-249-417-11	CARBON 1K 5%	1/6W
R115	1-249-459-11	CARBON 12K 5%	1/4W	R222	1-247-706-11	CARBON 330 5%	1/4W
R116	1-247-721-11	CARBON 4.7K 5%	1/4W	R223	1-249-440-11	CARBON 82K 5%	1/6W
R117	1-247-883-00	CARBON 150K 5%	1/6W	R224	1-247-891-00	CARBON 330K 5%	1/6W
R118	1-249-431-11	CARBON 15K 5%	1/6W	R226	1-249-429-11	CARBON 10K 5%	1/6W
R120	1-247-717-11	CARBON 2.2K 5%	1/4W	R227	1-247-717-11	CARBON 2.2K 5%	1/4W
R121	1-249-421-11	CARBON 2.2K 5%	1/6W	R228	1-249-405-11	CARBON 100 5%	1/6W
R122	1-249-421-11	CARBON 2.2K 5%	1/6W	R241	1-213-125-00	METAL OXIDE 33 5%	1W F
R123	1-247-713-11	CARBON 1K 5%	1/4W	R242	1-247-707-11	CARBON 390 5%	1/4W
R124	1-247-725-11	CARBON 10K 5%	1/4W	R250	1-249-421-11	CARBON 2.2K 5%	1/6W
R125	1-247-711-11	CARBON 680 5%	1/4W	R251	1-249-417-11	CARBON 1K 5%	1/6W
R126	1-247-717-11	CARBON 2.2K 5%	1/4W	R252	1-246-523-00	CARBON 120K 5%	1/4W
R127	1-247-717-11	CARBON 2.2K 5%	1/4W	R253	1-249-492-11	CARBON 47K 5%	1/2W
R128	1-249-421-11	CARBON 2.2K 5%	1/6W	R254	1-249-406-11	CARBON 120 5%	1/6W
R129	1-247-883-00	CARBON 150K 5%	1/6W	R255	1-247-699-11	CARBON 82 5%	1/4W F
R130	1-247-883-00	CARBON 150K 5%	1/6W	R261	1-202-359-17	SOLID 100 5%	1/4W
R131	1-249-462-11	CARBON 22K 5%	1/4W	R301	1-214-769-00	METAL 47K 1%	1/4W
R132	1-247-726-11	CARBON 33K 5%	1/4W	R303	1-247-712-11	CARBON 820 5%	1/4W
R133	1-249-465-11	CARBON 47K 5%	1/4W	R304	1-247-706-11	CARBON 330 5%	1/4W
R134	1-249-429-11	CARBON 10K 5%	1/6W	R305	1-249-411-11	CARBON 330 5%	1/6W
R135	1-249-429-11	CARBON 10K 5%	1/6W	R306	1-249-411-11	CARBON 330 5%	1/6W
R136	1-249-429-11	CARBON 10K 5%	1/6W	R307	1-249-467-11	CARBON 68K 5%	1/4W
R137	1-249-413-11	CARBON 470 5%	1/6W	R308	1-246-507-00	CARBON 27K 5%	1/4W
				R310	1-249-427-11	CARBON 6.8K 5%	1/6W

Courtesy of Manufacturer